

THE
ARCHITECTURAL
FORUM

INCLUDING "BUILDING MONEY"

MARCH, 1936

NEW DEAL BUILDING . . . MODERN HOUSE . . . CHURCH . . . H. A. B. S. . . . VAN SWERINGEN REALTY

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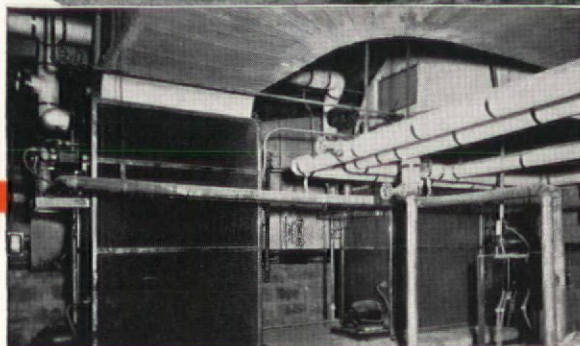
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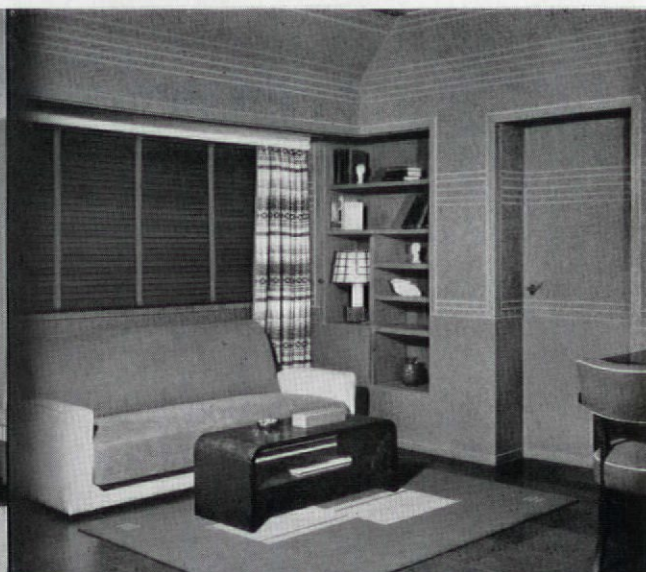
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THE DINING-ROOM. Unique indirect lighting produced by offset wall of Genuine Masonite QUARTRBOARD. This grainless board is moisture-resisting. Properly applied, it will not curl or crack. Here it provides an ideal base for wall-paper. It might, however, have been left in its natural warm-brown finish.

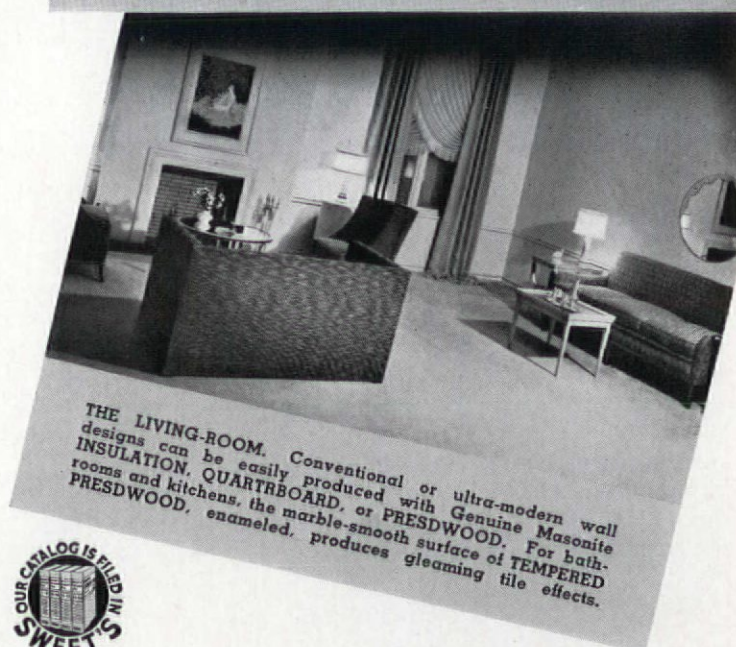


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The photographs on this page illustrate some of the many attractive home uses of Masonite Products, with furnishings by Barker Brothers of Los Angeles. Whether you are designing one house or a hundred, you should know of the beauty and economy possible with Genuine Masonite Products. Write us for free samples and further details. Address: Masonite Corporation, 111 W. Washington Street, Chicago, Ill.



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THE ARCHITECTURAL
FORUM

Published monthly by Time Inc., Henry R. Luce, President. Publication Office, 160 Maple Street, Jersey City, N. J.
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VOLUME LXIV
Number 3

THE MONTH IN BUILDING

VOLUME. The largest January building figures since 1931 had been recorded by two of the three major statistical agencies by the middle of last month. Department of Labor figures were not ready at mid-month. But observers who have been following the Labor figures as the best indicators of the nation-wide trend could look to two other more timely sets of figures for an indication of what that trend might be.

Usually first on the scene with its figures is Dun & Bradstreet, Inc., New York statistical house, with the very good argument that it sticks with 215 identical cities and thus gives a fine-drawn picture of the trend. Dun & Bradstreet's January figures represented a drop of 12.8 per cent from the December total, a gain of 104.8 per cent over last January's. Quick with its compilations, Dun & Bradstreet presents a breakdown of its highly urban figures in eight geographical classifications in its early-bird releases. For January, 1936, it recorded:

Change over 1935

New England States.....	+102.2
Middle Atlantic States.....	+131.7
South Atlantic States.....	+118.9
East Central States.....	+179.6
South Central States.....	+ 68.5
West Central States.....	+ 14.1
Mountain States.....	+ 77.9
Pacific States.....	+ 64.4

In its January-December comparisons, the New England, Middle Atlantic, West Central and Pacific divisions showed declines, while the South Atlantic, East Central, South Central and Mountain groups showed gains. Remarkably high in percentage of increase over January were these cities: Oklahoma City, 979.7 per cent; Rochester, 886.0; Cleveland, 654.1; Indianapolis, 325.6.

More intensive in their coverage, the F. W. Dodge figures for 37 States east of the Rockies recorded a drop of 22 per cent in January over December. The Dodge total figured 105.2 over 1935. Biggest gains over 1935 in the Middle Atlantic States, the Chicago territory and in southern Michigan confirmed the Dun & Bradstreet percentages. Consensus in the study of both sets of statistics was that the figures had declined over last month's in accord with the usual seasonal movement, had nevertheless doubled last year's figure.

BONUS BUILDING. With the passage of the Bonus Bill over Presidential veto, all industry began last month to guess at what their share of the spoils was to be. The Act called for the issue of

\$2,237,000,000 worth of "baby bonds" for the prepayment of the Bonus due in 1945. Of this amount, it is generally estimated that some one and a half billion dollars of the bonds will be cashed on or about July 15, date of their issue.

Guessers in the building industry had a firmer base than most for their prognostications. Several months ago the American Legion polled 25,000 potential recipients of the Bonus to discover how they intended to spend their share of the money. Of this number 25 per cent planned to invest in either home construction or real estate, presumably also with a view to construction.

Applying this percentage to the total sum which it is estimated will be immediately expended, the total home building bill from Bonus money tots up to \$375,000,000. This sum should go largely for 20 per cent down payments on homes. Additional mortgage financing will bring the final expenditure up to about one and a half billion dollars.

Modifying this figure was the consideration that the American Legion poll, if not political of itself, was at least conducted to justify a political move, and was therefore reasonably open to the suspicion of unconscious padding. On the other hand, the 25 per cent figure seems justified in view of the fact that the Bonus to most means inflation, and fear of inflation establishes a well-known predilection for real estate as an investment. Furthermore, most recipients of the Bonus are now at an age when home ownership becomes a major objective in life.

Several informed sources last month predicted that the full force of the initial expenditure of \$375,000,000 would not be felt by the building industry until the last quarter of this year or the first quarter of 1937. Such a forecast was obviously made on the assumption that the majority of the houses would be architect-built, hence take time to reach the construction stage. However, in view of the economic status of the average recipient of the Bonus, it seems fair to assume that the majority will be able to afford no more than the speculative home, built to sell for less than \$7,000.

Undoubtedly, operative builders with a speculative yen will assume this to be the case, will start construction against the coming demand within the next two months.

MORE HOUSING. A new newshawk on the White House beat was one reason given for a record crop of unsubstantiated

stories on Housing plans emanating from Washington last month. Whatever the reason it was almost impossible to untangle fact from fancy, and nearly every professional Houser had the chance to see his pet theory in print at least once.

Most authentic news was the drastic ruling by Comptroller General McCarl in regard to subsidies for the Government's low rent housing projects: the Government had no right to absorb the cost of the 45 per cent grant for those projects erected with funds appropriated under the NIRA; or in other words it must charge a rental based on this portion of the cost as well as on the 55 per cent loan which PWA accords its low rent projects. Thus unless and until this ruling is cured by Congress, the rent on those low rent projects financed under the first program must be raised at least \$2 per room per month. Ten out of PWA's 50 low rent projects are thus financed; the rest are being built with money voted under the Emergency Appropriation Act of 1935.

Most original Housing idea of the month was contributed by the U. S. Chamber of Commerce in its report to the 151st Board meeting. Housing for the lowest income group, it contended, should be erected by private enterprise and a subsidy applied in the form of rent relief contributed by the local States and municipalities. The cost of this form of relief, as seriously applied to the problem of housing, was not computed by the Chamber of Commerce report.

NEW RESERVE. Last month, without comment or dissent Congress confirmed President Roosevelt's six appointments to the new Federal Reserve Board. The seventh man is yet to be named. The induction of the new Board, now called "The Board of Governors of the Federal Reserve System," marks also the induction of vast new powers into that system. The Governors are now in fact the managers of U.S. currency, empowered to dicker with reserve requirements and rediscount rates to an unprecedented degree.

For the first time in the history of the system the personnel of the Board reflects the debtor rather than the creditor side of the ledger. The new Governors:

Menc Stephen Szymczak (pronounced Simchak) onetime politically active Comptroller of the City of Chicago, who was first appointed to the old Board in 1933. Term: 12 years.

Joseph A. Broderick, onetime New York State Superintendent of Banking, onetime technical adviser for the Reserve Banks.

Term: 14 years.

John Keown McKee, lately chief examiner for RFC, distinguished himself as receiver of closed banks in his native Pennsylvania. Term: 10 years.

Ronald Ransom, executive vice president of Atlanta's Fulton National Bank, and a lawyer. Term: 6 years.

Ralph Waldo Morrison, Texas utilitarian, and heavy contributor to the Democratic Party's campaign chest. Term: 2 years.

Marriner Stoddard Eccles, chairman. Of all the appointees Eccles is the only man whose training makes him particularly familiar with the problems peculiar to the building industry. His is the mortgage philosophy which the new Board will shortly put into practice. He looks with favor on mixed banking, on low interest rates, on greater liquidity for long-term mortgages. (See p. 145.)

CERTIFIED HOUSES. No. 1 exhibit in the galaxy of paradoxes sometimes called the building industry is the fact that man knows least about what he gets for his money when he makes his largest lifetime investment, i.e., buys or builds a house. This phenomenon has penalized not only the buyer but also, among others, the architect and the producer of quality building products. That little or nothing has been done about it all these many years again traces to the fact that building of homes is not a few big businesses but thousands and thousands of little businesses, thus defeating any attempt to standardize values.

With an impending house building program exceeding any previous proportions, the problem of securing good value for the home builder is receiving the thoughtful study of many a man with an important stake in this market. Among representative manufacturers the conviction grows that their chances for sales are vastly improved when the professional hand of an architect is in the making of a house.

Over a period of years various plans have been proposed to create a greater public demand for architectural service in this field but they have all fallen by the wayside because modern crusading is a job for a Croesus. Most frequently advanced has been a campaign selling architecture to the public, to be financed by contributions from the profession itself. Aside from a natural professional reticence this program never blossomed because an adequate campaign fund was never even potentially possible. But so good an idea and so good a cause lacked only the proper sponsorship to reach reality.

Of the 3,000 or more building product producers none has been more spectacularly successful than Toledo's Libbey-Owens-Ford Co. In turn no sales executive has won wider recognition than L.O.F.'s George P. MacNichol Jr. With a difficult brand problem to master MacNichol con-

vinced himself and then his associates that their greater success was implicit in the architects' greater success. He therefore set about to produce a workable plan and never lost sight of two fundamentals: (1) it had to be simple, and (2) it had to be amply financed.

THE PLAN: To offer to architects, home builders, lending institutions and home buyers a certified statement of the materials and equipment used in a house. To make certain that these products had actually been used certification is predicated on mandatory inspection of the job



George P. MacNichol Jr.

by the architect supported by a notarized statement. To promote the plan MacNichol is recognizing the fine nucleus furnished by the Producers Council of the A.I.A., membership in which includes many, although not all, of the important manufacturers. Should the plan materialize this group and others who wish to participate will be invited to contribute to an advertising fund of perhaps several hundred thousand dollars which in turn will be used to buy large space in the leading magazines. The advertising copy will feature the architect and the certified house theme. It may even offer a metallic plaque which can be built into each house as permanent evidence of its quality.

Noteworthy in the plan are three things: it is simple; it can be financed because it looks for money from the only possible source—the manufacturer; it is impartial because certification (and note this particularly) is not limited to the products of supporting manufacturers. The architect is given an absolutely free hand to use what he pleases. But he must guarantee that the products he names were actually used and installed in accordance with accepted practice.

The importance of this program to the architect is obvious. For the first time he would be getting the type of effective public promotion which has long been given to the professions of medicine and dentistry.

The operative builder would receive a new selling implement which should greatly accelerate his business.

The lending institution would have a measure of assurance in the quality of its collateral, both originally and in case of resale, which it now lacks.

The home builder would not only get a better house for his money but likewise a better investment for which there should be a more stable market in periods of distress.

THE MAN: George P. MacNichol is proof of the fact that when a man is born in a glass house he should stay in it. He is of the fourth generation of a family whose contributions to glass have been notable from the day when great-grandfather Ford founded the plate glass business in the United States. Rangy, stooped and unassuming to a degree which is rarely found in sales executives, "June" MacNichol has quietly developed and led an organization of fast stepping salesmen. After the War and Yale MacNichol joined the Edward Ford Plate Glass Co., which in 1930 merged with Libbey-Owens to make the present Libbey-Owens-Ford Glass Co.

Hard working he never appears to be and hard driving he never is, but the patience which catches the best string of fish and the largest bag of ducks is going to have a chance to prove itself again in persuading a high pile of building dollars to topple into the quality building pot.

EARNINGS. Last month the following building supply company earnings reports for the year 1935 were available for comparison with reports for the year 1934: (000's omitted; D = deficit)

	1935	1934
Albert Pick (hotel equipment)	27	23
American Radiator	2,735	1,455
Archer-Daniels-Midland (paint)	809	1,199
Bigelow-Sanford Carpet ..	416	173
Devoe & Reynolds (paint, year ended Nov. 30) ..	530	460
General Fireproofing (steel office and store equipment)	395	172
Grand Rapids Varnish ..	128	102
Hibbard, Spencer, Bartlett (hardware)	377	520
Holland Furnace (eight mos. ended Nov. 30) ..	770	
Iron Fireman	600	522
Kelvinator (quarter ended Dec. 30)	153 D	290 D
Masonite (sixteen wks. ended Dec. 21)	271	153
Parker Rust Proof	953	691
Walworth (valves)	227 D	234 D



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Prominent among the Barrett-roofed buildings that distinguish Birmingham's business section are the following:

Alabama Power Building
Birmingham Electric
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Empire Building
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Louis Pizitz Dry Goods Company
Masonic Temple
Protective Life Building
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Southern Bell Telephone and Telegraph
Tutwiler Hotel
U. S. Post Office
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...and many others, including the Steiner Building, whose Barrett Roof has been giving continuous, expense-free service for 48 years.

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finish, impervious to weather, eliminates the necessity of painting, either inside or out, and reduces the cost of cleaning.

Office partitions made of Insulux are brightening the business world. Industry welcomes it in factory walls because it increases the comfort and efficiency of workers. In store fronts, it admits light during the day and can be floodlighted, from inside, to give arresting effects at night. Specialty establishments, such as gasoline service stations, that depend largely upon eye-appeal for transient pa-

tronage, eagerly accept it. New lighting effects in modern homes, new and better ways of lighting basement rooms, the obscuring of an unsightly view without sacrificing light, all are made possible by the intelligent introduction of glass masonry into residence design. It is truly a bright, new world which glass block invites you to help build and prosper thereby. For full details write for the new O-I Glass Block brochure. Owens-Illinois Glass Company . . . Structural Materials Division, Muncie, Indiana.

OWENS-ILLINOIS

Glass



Masonry

Other Owens-Illinois Building Materials—Dustop Air Filters, Industrial Insulation. Also Red Top Insulation Wool (United States Gypsum Company, distributors.

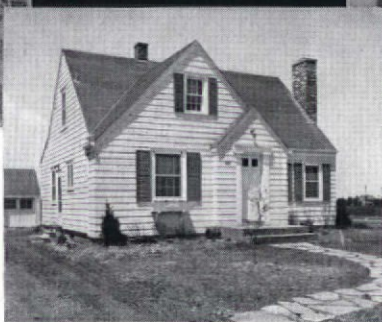
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PEARCE & PEARCE
BUFFALO, N. Y.

Both kitchen and bath have distinctive floors of Sealex Linoleum, with a cove base that eliminates dirt-catching corners. Sealex Wall-Covering has been used to ceiling height. Note the decorative Sealex Linsignia on bathroom wall.



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On the advice of the architects, W. G. Lanphear and Son, Sealex Linoleum was installed in halls, vestibules, kitchen and bath—as well as Sealex Wall-Covering in the kitchen and bath. This Sealex installation proved to be one of the biggest selling points in the entire project. In a little over a year, sixty-nine homes were completed and sold.

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This is typical of the success architects and builders all over the country are having with Sealex Linoleum.

Sealex provides a quiet, resilient floor that is easy to keep clean. A wide range of patterns and designed-to-order effects are available, to harmonize with any decorative scheme. Prospects appreciate the beauty and economy of a Sealex Floor. And Sealex Wall-Covering gives any room a "million dollar effect" at very moderate cost.

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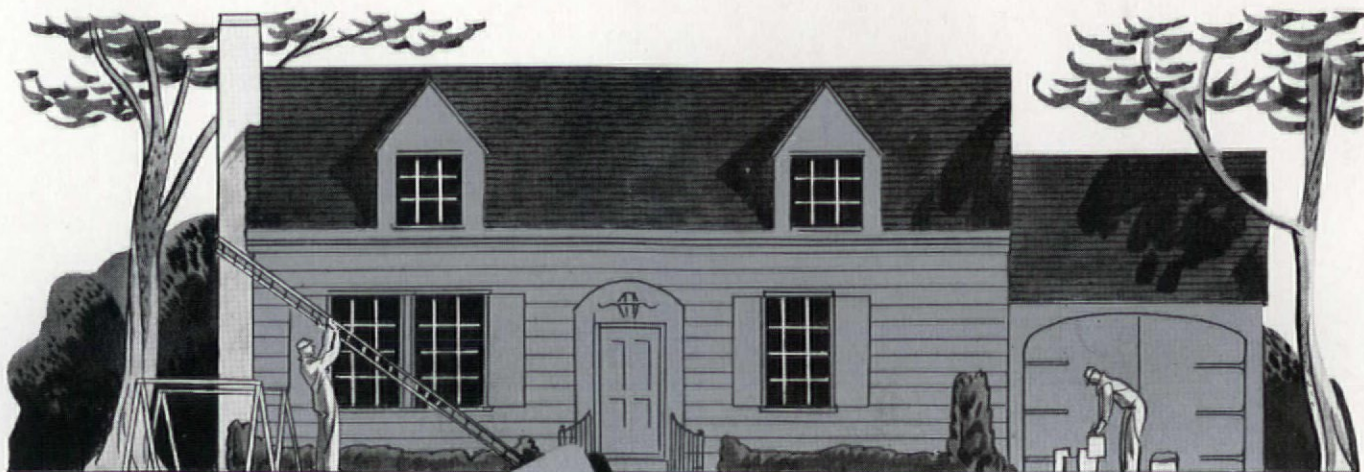
NEW! Don't fail to find out about the revolutionary new *Adhesive Sealex Linoleum*. The factory-applied adhesive on the back of this patented* new inlaid linoleum saves up to 20% on installation cost—reduces laying time to 2 to 3 hours** and gives a stronger, longer-wearing installation than ever before—a permanent floor!

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IS *Better*
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LETTERS

Fordyce & Hamby

Forum:

... The article on small speculative houses interested me immensely, because of its manner of approach, and because it mentioned some of the things that I have been trying to hammer into my friends who are designing one of the new communities. I have lived in a small house for the last eight years; and there are still a number of points that the best of small house architects forget or never even imagine, for lack of experience.

The greatest weakness in Fordyce & Hamby's article was their dicta on orientation. It was good to see them mention the subject and take it seriously; but for a magazine with a national circulation it was a little dangerous to hand out their prescriptions. For one thing orientation is a matter of latitude, climate, and sun-days, plus prevailing winds: hence there should have been a few words of warning about the necessity for adaptation in different regions, even if the authors didn't work out different orientation themselves. No orientation studies have yet been sufficiently exhaustive here, what Wright now is going on with at Columbia will, I think, have some new points to show.

The other matter is the orientation of kitchen and master's bedroom. More time is spent by the housewife in the kitchen than in any other room; whereas less sun-time is spent in the living room; hence the orientation indicated here seems to me absurd. Again: most adults don't like to be awakened prematurely by the sun; and most children don't like to go to bed in summer while it's shining at them: hence the master's bedroom should be on the west sector and the children's on the southeast. Southern exposure for the nursery is highly important for the child's health: sunbaths and sleeping in the sun in the winter.

If, in addition, the guest room has a southern exposure it can be used as an isolation room in case of illness on the part of any member of the family. This alternative use of the guest room is I think important and worth while calling attention to.

LEWIS MUMFORD

Long Island City, N. Y.

Forum:

I have just spent the evening deep in your January number after tormenting glances stolen through the day.

My thanks go to you for the plain talk de luxe for everybody who thinks small house. Fordyce & Hamby have done an eminently neat job of the subject.

I like your recent "Construction Outlines" and cost analysis. Is there no way the circumstances of the contract, i.e., com-

petition, local wage rates, local markets and general execution of the drawings might be rated?

EDWIN M. STITT

Cleveland, Ohio

Forum:

Let me congratulate you on the swell job that you have done in the January issue on what a small house should have. It's the first authoritative book that I have ever seen ...

ADOLPH KORPER

Hartford, Conn.

Forum:

I think the article in your January issue by Fordyce & Hamby is the finest analysis of its kind I have ever read.

COOPER LIGHTBOWN & SONS

Washington, D. C.

Forum:

... The feature section of the January issue was so interesting that I endeavored to obtain copies, having in mind giving them to certain builders and architects who I thought would benefit by its educational aspects ... Congratulations on that particular article. I must say it was well worth waiting for.

WENDELL WESTOVER

Albany, N. Y.

Forum:

The crippled building world explains the why of most issues of past years, but I can't see the excuse for January, 1936, number. Please close my subscription.

JOHN P. ALMOND

Washington, D. C.

Forum:

I should like most strongly to commend your innovation of critically appraising the small houses that appeared in the recent reference number. Too long have architectural magazines offered, and has the profession willingly accepted a glossy spread of photographs and an accompanying blurb in the best book-jacket tradition as a sufficient notice of a new building.

Everyone except the architect criticizes architecture. As a result, architectural criticism is incompetent. Why not review a new building at least as thoroughly as a new book? No more of this flattering the good points and ignoring the bad!

Please let me further commend your publication of Messrs. Fordyce's & Hamby's study of Small Houses for Civilized Americans. Here at last we have a pattern of approach for deductive analysis instead of a portfolio for "inspiration" or (more boldly stated) copying.

GEORGE R. METZGER, JR.

Graduate College
Princeton, N. J.

Forum:

May I record my feeling that THE FORUM as at present issued is just about the most harrowing example of a professional journal gone wrong, with which I am acquainted, and I shall certainly be greatly relieved when my subscription expires—or you may discontinue sending it immediately if you wish.

LOUIS STEVENS

Pittsburgh

Forum:

Your January issue reminds us again—this time in color—that there is nothing new under the sun. Messrs. Fordyce & Hamby seem to have discovered (page 19) that "it is a crime to make anyone enter someone else's bedroom to reach own bedroom or bathroom." Yet their Civilized Americans in houses B and E would find it necessary to climb into the bath tub to open or close the window.

Oh well, the color was nice.

FREDERICK A. SCHAFER

Madison, Wis.

Forum:

... After reading it quite carefully, I could not help but wonder, if they (Fordyce & Hamby) had ever built a small house.

I still think that people would prefer to live in a house rather than a show window. I think there is advantage to be gained by having the rooms subdivided as they are at present, for privacy and for general comfort of living, as compared with throwing them all into wide open spaces. The old-fashioned attic still has its advantage for storage space, over the scientifically arranged cubby holes.

I still think that the modern house will be an evolution of our older forms with the many labor and time saving mechanical devices, which can be added to a building for the purpose of comfort without detracting from its appearance as a home. Manufacturers are spending much time and money trying to devise new materials for exterior walls, but upon analysis we find that the exterior walls are but a very small portion of the total cost of a house. In other words, if we take a \$5,000 house and omit the outside walls entirely and have no walls at all, only \$525 can be saved. This, of course, doesn't include windows and doors in the outside walls, but merely the wall construction. Cinder blocks cost 11 cents each; labor to lay them is 5 cents; mortar required is 3 cents; furring lath and plaster on the inside 10 cents; this makes a total of 29 cents. These blocks can be whitewashed for 2 cents a foot, or cement plastered for 5 cents making a maximum of 36 cents. The average little house has 1,500 sq. ft.

I believe that reduction in cost will come

(Continued on page 10)

LETTERS

(Continued from page 9)

from reduction in the cost of manufacturing all the various materials and articles that go into the construction of a house. These of necessity must be transported in small units, but the tendency will be toward large units which are largely limited to weight. Extremely large units would require mechanical equipment for setting, which would offset the saving.

I believe the time is not far off, however, when improvements in materials will make it possible to build a fireproof house with no increase in cost over the frame house. However, most of the work will still be done on the site.

One of the largest items in the modern house is the cost of the plumbing and heating equipment. I find that \$900 is about the minimum for which a steam heating plant, one bathroom, kitchen, and laundry, and extra toilet and lavatory can be installed. Of this cost, only \$200 to \$225 is labor. The balance is the cost of plumbing and heating material, piping, transportation, and profits for the manufacturer, jobber and plumber.

KENNETH W. DALZELL

Summit, N. J.

Fordyce & Hamby have built small houses, have under construction three houses published in *ARCH. FORUM*, January, 1936 (pp. 32, 34, 39).—Ed.

Forum:

I congratulate you on the noteworthy January issue of *THE ARCHITECTURAL FORUM*, and particularly on your enterprise in publishing the very interesting survey of Messrs. Fordyce & Hamby. . . . (It) is one of the finest issues of any architectural magazine that I have ever seen.

It is encouraging to see such a painstaking and thorough analysis of home building requirements . . .

R. V. PARSONS

New York, N. Y.

New York's Fair

Forum:

In your January issue you make two statements which in my opinion are incorrect. "With three short years in which to produce his fair . . . Father Knickerbocker rubs his eyes and gazes wistfully at a large tract of land in Flushing."

"At the moment the New York Fair has no excuse."

I believe, however, that it is important to be clear on the attitude expressed in these statements. The assumption made is that fairs are designed for all good and noble purposes and the question is, what good and noble purpose this fair will serve. This same assumption was implicit in the admirable albeit misguided protest meeting staged by Mr. Michael Hare.

The fact of the matter is that our fair has a very real and definite *raison d'être*.

Pa Knickerbocker in his spare time is not wistfully gazing, but wishfully thinking, and not of beauty (streamlined or Doric).

The cynic scribe wrote over the gate to the Chicago Fair "Dedicated to that Sweet Goddess Profit." The fathers of her church in Windy City sanctuaries counted profits. At the moment Charley Knickerbocker is estimating the sucker crop.

Originally a Fair had sense, for it was the only advertising, the only ballyhoo and the only market. If the shell games, peep shows and bargains were fakes, at least it gave thrills, strange sights, city life, loose women, to the yokel (read Chekov). Today we hardly need a special occasion for these things. We are impregnated with ballyhoo. The radios, billboards, the mail and the newspapers are full of pictures of bargains at \$3.98. The movies are filled with strange sights (Claudette Colbert as Cleopatra). The night clubs and road-houses flourish.

Fairs are old fashioned, unnecessary, outmoded.

Consider the one in Chicago—the big thrill—Amos and Andy, 600 ft. high and you rode at two miles an hour in a "Rocket Car" above the ground. (Mr. Jones was supposed to get a kick out of this. He came from New York via plane.)

The "Science" building with its exhibits, perhaps half as good as the educational movie, the "Industrial" buildings with every Main Street shop window rather better arranged, etc., etc.

The modern fair carries coals to Newcastle and poor Father Knickerbocker has the difficult job of devising some way in which the same old product, advertised and exploited ad nauseum, will be made attractive enough to attract the yokel gold.

But why display the over-displayed products? Obviously because companies that can afford large advertising appropriations are the main bulwarks of a fair. If Tel. & Tel., U. S. Steel, G. E., Western Union, General Motors, Ford, Carbon & Carbide, Pennsy and N. Y. Central, Standard Oil, etc., were not asked to collaborate, could there be a fair?

Yes, but would it pay dividends?

Whether our fair is dressed up to look like the Acropolis or the Bauhaus, it will be the same old fair because it is on the same old basis.

• • •

Let us look at the question in a different way. Let us forget profit financial for profit social. Let us change the word "Fair" (meaning market)—let us forget Nijni-Novgorod and St. Bartholomew's.

Consider educational exhibition.

It is clear that America needs education on certain lines. It is clear that Lewis Mumford's statement that the New York fair might tell the story of "planned environment incorporating public health, biology, education, social science" and thereby "project a pattern which will fulfill itself in the future of the whole civilization" is the

basis of a fair that America needs, for the fair that America wants to see, and should see.

Visualize the results of this idea in architectural terms.

Here we have no questions of "what style." Here we face real issues. Here we face the city and country side, not of tomorrow but of today. Here we introduce America's industries, not as a hodge podge on a gargantuan bargain counter, but as an integrated part of our lives, of our environment. (Here we bluntly call out against reaction—against wrong and wasteful uses of natural and human resources.)

Here we build in sample patterns the city and country under mechanization.

Here we interpret, explain and develop the science "Urbanism." Here we make an examination of prefabricated housing. Here we indicate the horror of the slum and the submarginal farm. Here we deal with pollution of water supplies, and Rudy Vallee. Here we deal with modern educational methods and uses of leisure, of "planned environment." We deal in other words with life in America not only as it is, but as it could, should, must be.

But I fear that both Lewis Mumford and I suffer from Utopianism. Such a "Fair" would not pay dividends.

I believe, however, that such an exhibition is a possibility. It would demand the efforts of our best men. It would probably require Government subsidy, and it would take more than three years to put together. But it would be worth it.

PERCIVAL GOODMAN

New York, N. Y.

Forum:

"The Influence of Appearance" (theme for New York Fair).

Design in color and form is being applied to buildings, equipment and commodities for personal use. The younger generation is being trained to recognize good design. The Chicago Fair did much to arouse interest in the color and form of its buildings but much of the utilization equipment shown was not in keeping with the exterior of the buildings.

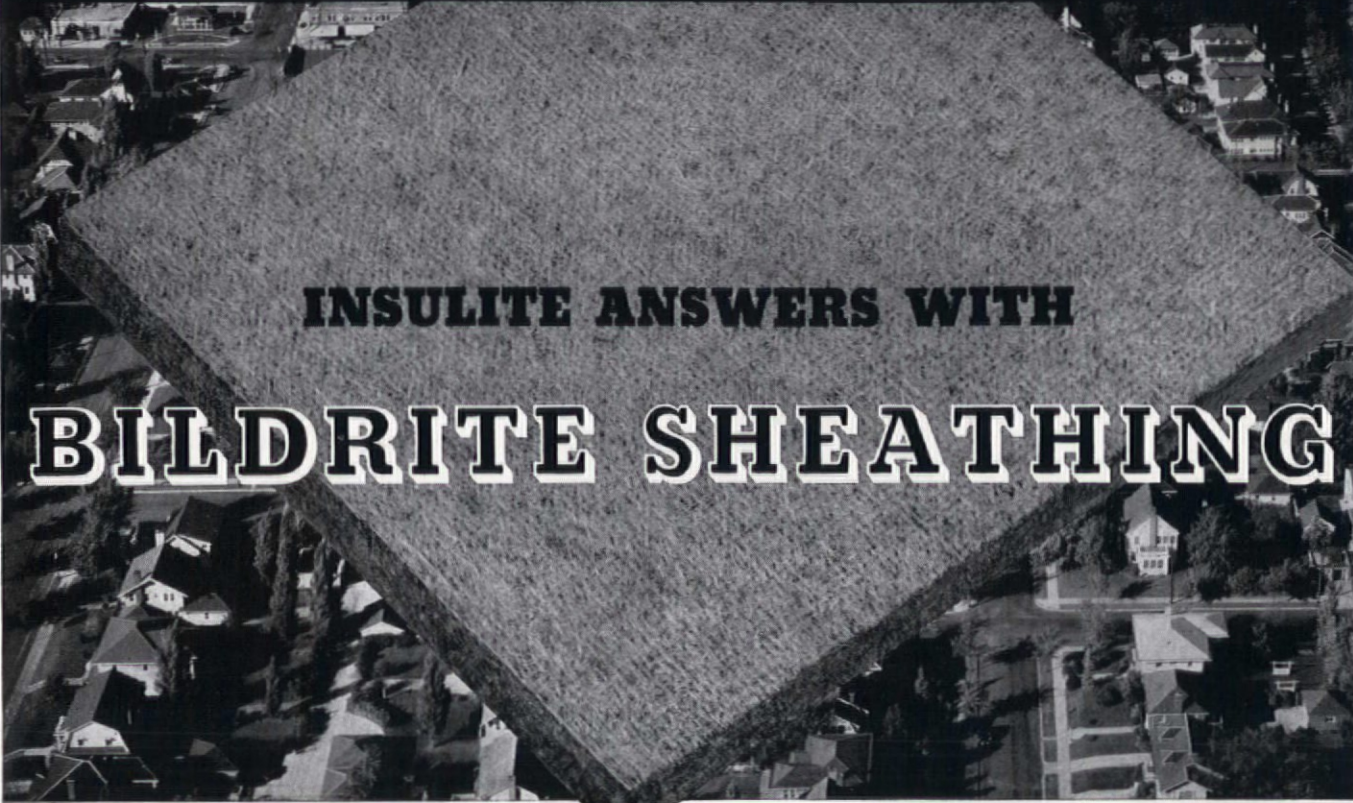
Some of the newer furniture is very attractive in design and some is terrible. The same is true of automobiles; package goods are getting better jackets; the idea of appearance is taking hold of the public. Why should not our machinery, our factory buildings and workshops improve in appearance? Much of the machinery used during the "seven years of plenty," terminating in 1929, is no longer competitive—it will be rebuilt or replaced in the next few years. Factory layouts will be changed and buildings modified. We are in a transition state where an organized effort, to improve appearance in our work-day life as well as our home life, could be successful.

H. D. JAMES

Pittsburgh, Pa.

(Continued on page 54)

AMERICA DEMANDS BETTER HOMES



INSULITE ANSWERS WITH BILDRITE SHEATHING

Bildrite Sheathing is Insulite's answer to the demand for better homes...a development so different that it will revolutionize home building. Read about it...examine a sample...then judge for yourself the values of this new sheathing.

- Four times the bracing strength of 8" ship-lap.
- Three times the insulation of average lumber.
- No open joints or knotholes.
- Lower application costs.
- Priced to meet the low-cost trend.

Only
INSULITE
makes it

YOU'LL WANT TO EXAMINE IT YOURSELF

Use this coupon to get more information and a free sample of this remarkable new sheathing—for use in the finest homes—priced within reach of all

The Insulite Company, Dept. AF1-6
Builders Exchange Building, Minneapolis, Minn.
Please send me sample and information on Insulite Bildrite Sheathing.
Name.....
Street Address.....
City and State.....

IN EVERY ADVERTISEMENT TO PROSPECTIVE BUILDERS OR MODERNIZERS WE SAY:
"IT WILL PAY YOU TO SEE AN ARCHITECT WHEN YOU BUILD OR REMODEL"

The World's Greatest Heating and Ventilating Organization Announces the

AMERICAN RADIATOR

7 FUNCTIONS OF AMERICAN RADIATOR CONDITIONING SYSTEMS*

HUMIDIFICATION

1. Restores proper moisture content to air . . . prevents the drying out of indoor atmosphere in winter, injury to furniture or furnishings. Improves health.

AIR CIRCULATION

2. Maintains proper air motion . . . stimulating and refreshing.

AIR CLEANING

3. Filters dangerous and unsanitary dust, soot, pollen, etc., out of air admitted into house.

VENTILATION

4. Brings in and distributes without drafts an adequate supply of fresh outdoor air.

RADIATOR HEATING

5. The kind that uses two methods of supplying heat — radiation and convection. Each room has its own properly sized independent heat source, unaffected by drafts.

CONTROLLED HEAT DISTRIBUTION

6. Assures a positive and adequate supply of warmth to every part of the house, regardless of wind or weather. Heat sources placed where they fight the cold.

YEAR-'ROUND DOMESTIC HOT WATER

7. Continuous supply of year-'round domestic hot water is part of every American Radiator Conditioning System.

*NOTE: Provision is made for the addition of mechanical summer cooling and dehumidification if desired.

HERE is great building news for the booming home market. American Radiator announces new Conditioning Systems as the important new product to be used in every home built this year.

The illustration shows a typical American Radiator Conditioning System. The Conditioning Unit (in color) produces forced ventilation and controls the condition of the air. It is suspended below the ceiling of the basement. Air is filtered as it enters, then brought to a comfortable temperature by tempering coils. A spray humidifier provides the correct moisture content. A Sirocco Blower silently forces the conditioned air throughout the house.

A radiator system — steam, hot water or vapor — provides heat. Here, too, there has been remarkable advance. There are new boilers especially designed for automatic operation with any fuel... There are new radiators, in keeping with modern interiors... There are new controls, new valves, new vents which improve heat distribution... There are new materials such as copper for the piping system. Practically every part has been improved . . . producing in fact a new kind of radiator heating.

It is simple to install, for the Conditioner requires a minimum of duct work. Heating and Conditioning operate independently. Either can be operated separately at any time. Or both can be used together.

The entire system enables you to give your customers "Home Comfort You Never Dreamed Possible." This year really modern homes will include American Radiator Conditioning Systems. That fact is assured. American Radiator has already started a national magazine, newspaper and radio promotion campaign to make people demand it in new homes they build, or old homes they remodel this year.

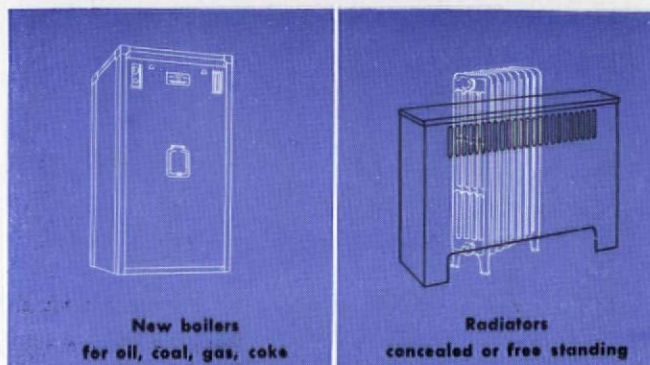
Send for literature and specifications
... as well as a merchandising and
promotion plan . . . Write today.



AMERICAN RADIATOR COMPANY

40 West 40th Street, New York, N. Y.

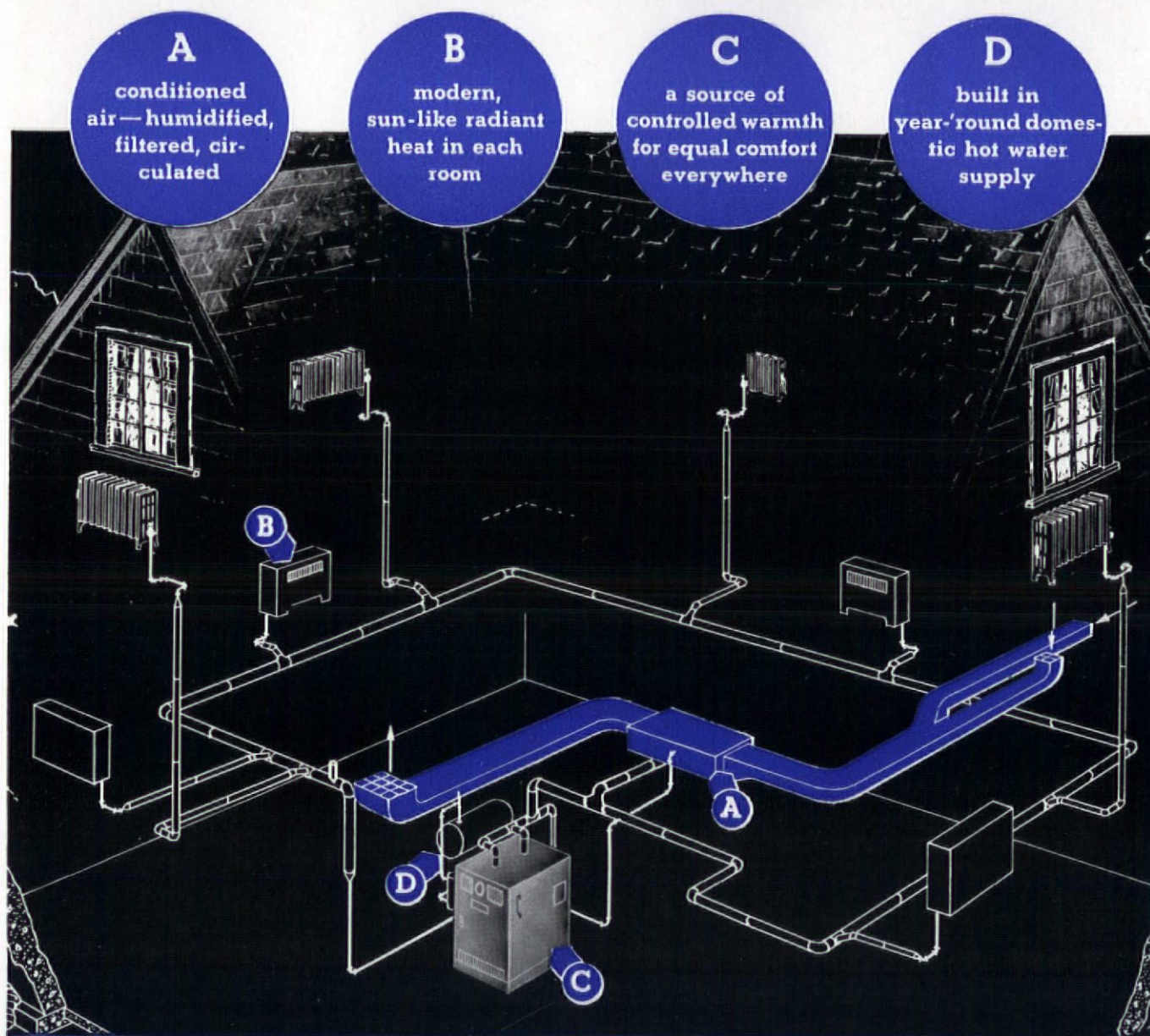
Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION



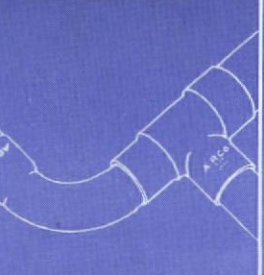
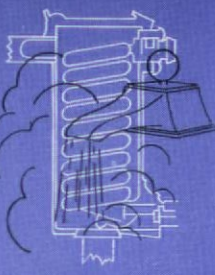


New boilers
for oil, coal, gas, coke

Radiators
concealed or free standing

CONDITIONING SYSTEMS

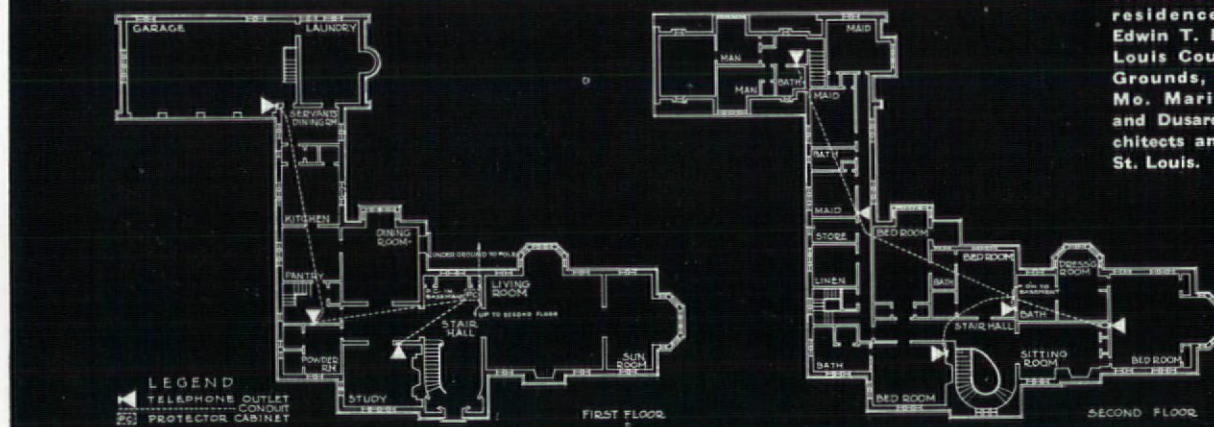


 <p>New vents and air valves for regulated venting</p>	 <p>Automatic controls for every purpose</p>	 <p>New Packless Valves for steam, hot water, vapor</p>	 <p>Pipe and Fittings of pure wrought copper</p>	 <p>Automatic, year-'round domestic hot water</p>
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BETTER telephone arrangements by planning in advance

Built-in conduit, connecting 8 outlets, provides for telephone convenience in the residence of Mrs. Edwin T. Nugent, St. Louis Country Club Grounds, St. Louis, Mo. Maritz, Young and Dusard, Inc., Architects and Builders, St. Louis.



THERE are definite dollars-and-cents advantages to planning telephone arrangements as carefully as plumbing or lighting. Conduit, included in walls and floors during construction, costs very little — protects against certain types of service interruptions. Outlets located at convenient points permit telephones to be added at any time, easily, without exposed wiring.

The extra outlets will prove useful over the years as families increase and

children grow up. In guest-room, sick-room, play-room or other "occasional" quarters, the outlets can be equipped for portable telephones.

Many architects find the specialized knowledge of telephone engineers valuable in planning efficient, economical conduit layouts for residences. There is no charge or obligation. Just call the Business Office of your local telephone company and ask for "Architects' and Builders' Service."



For further information on Bell System telephone services and equipment, see Sweet's Catalogue

● No polishing, no lacquers, no surface treatment of any sort are ever required to maintain the distinctive bright surface of stainless steel and to guard it against rust and corrosion. The composition of stainless steel is uniform throughout—every particle is as corrosion-resistant as its beautiful surface. It is forever free from stains, tarnishes and surface oxidation of every sort. It does not pit, chip or peel.

Practical and unbiased data on stainless steels and their uses are offered by Electromet, pioneer producer of ferro-alloys and metals. Your request for this data will not obligate you. Write for complete information.

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Stainless
STEEL FOR TRIM

• Stainless steel stair and balcony railings, Radio City Music Hall, New York. Reinhard and Hofmeister, Corbett, Harrison and MacMurray; Hood and Foulhoux, Architects for Rockefeller Center.

Of course you'll plan for
CONTROLLED RADIANT HEAT
The basis of True
AIR CONDITIONING

Room-by-room Temperature Control... at a finger's touch!

Today it is doubly important that the home builder give more critical thought to the selection of his heating system— from both the angle of efficient heating and that of adaptability to air conditioning.

Modern heating engineers agree upon this fact: *Correct heating is the foundation of true air conditioning in the home.* Our tests show that radiant heat—as provided by radiators—is most easily controlled, cleanest, most healthful and comfortable. And that only when air conditioning equipment is furnished as an auxiliary and independent system.

Hence thousands of builders are now planning to install Hoffman Controlled Heat—with auxiliary air conditioning equipment to be installed either immediately or in the future. This system affords a room-by-room control of temperature... a finger's touch upon the handle of the Radiant Modulating Valve instantly increases or decreases the heat output of that radiator. Room temperature can then be promptly adjusted to personal preference or to changing weather conditions. Likewise, fuel is consumed only in proportion to the demand for heat—no over or under-heating.

Hoffman Controlled Heat costs no more than any good two-pipe system and its equipment is adaptable to any type of steam boiler. Send for our new booklet which contains full information and will add considerably to your knowledge of heating. Hoffman Specialty Co., Inc., Dept. HC-1, Waterbury, Conn.

HOFFMAN CONTROLLED HEAT
 Also Makers of Venting Valves and Hoffman Economy Pumps

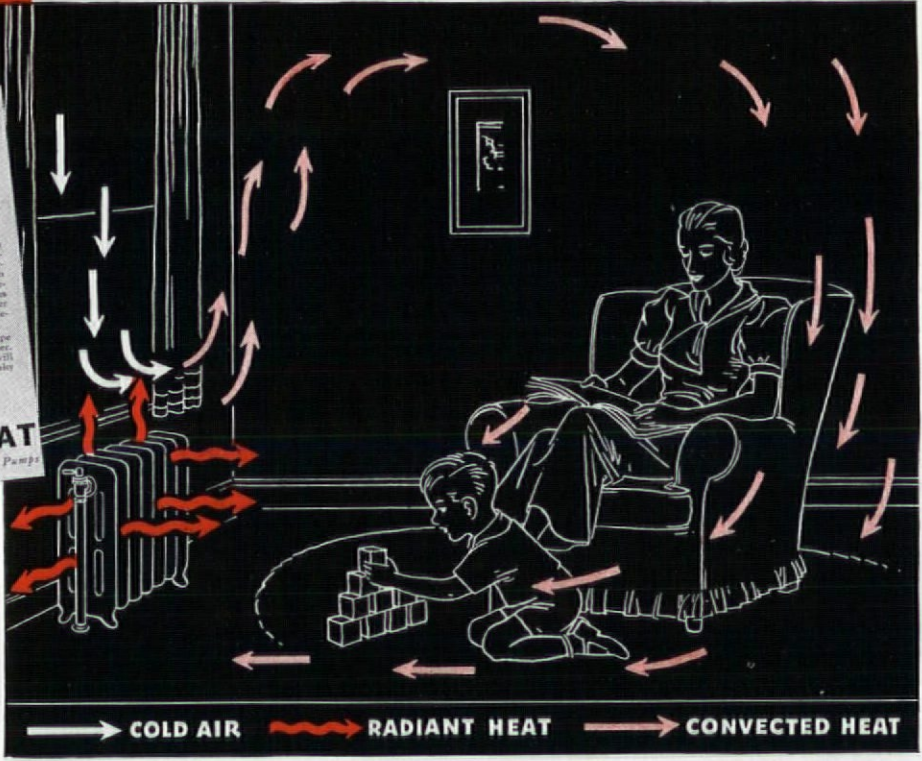
One of a series of educational advertisements now appearing in nationally circulated magazines.

AIR-CONDITIONING

with assured

SATISFACTION

... AS EXPLAINED IN HOFFMAN NATIONAL ADVERTISING TO BUILDERS OF NEW HOMES



● Satisfactory air-conditioning is about 85% dependent upon proper heating. Cleaning, humidifying, and circulating of air in winter are desirable features in any home, but their value is decidedly minimized unless the heating system is adequate and efficient. This indicates the need for **radiant (radiator) heat** with air-conditioning furnished by equipment *separate* from the heating plant.

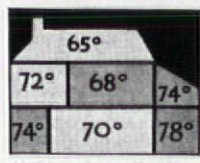
To place this important fact before today's home-builders, Hoffman is sponsoring a national educational campaign, typified by the advertisement shown here.

Hoffman Controlled Heat, a vapor-vacuum system, furnishes an ideal method of heating as a basis for true air-conditioning. In this system, the heating units are placed where they logically

belong—**UNDER THE WINDOWS**. Thus, in-leaking cold air is thoroughly warmed before circulating through the room and there is no stratification of cold air along the floor. As shown in the illustration above, **comfort is assured by both radiant and convected heat.**

When auxiliary air-conditioning equipment is installed with Hoffman Controlled Heat, the conditioning process is not dependent upon the heating plant and will function whether or not heat is being supplied. Further, the temperature in each *individual* room can be adjusted to personal preference at a finger's touch on the handle of the Hoffman Modulating Radiator Valve.

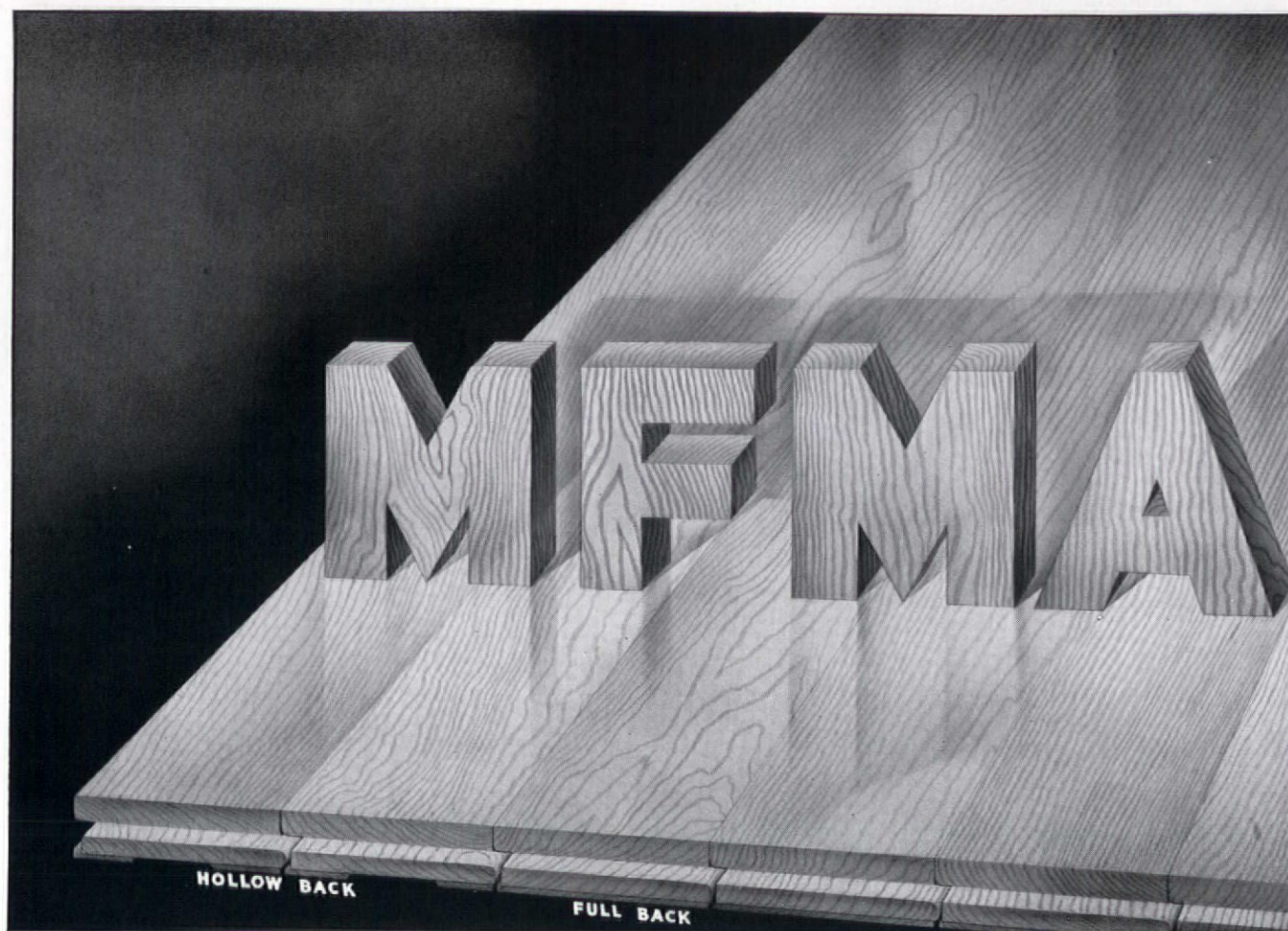
For full information on Hoffman Controlled Heat, write to the Hoffman Specialty Company, Inc., Dept. AF-3, Waterbury, Connecticut.



Hoffman Controlled Heat delivers to each room individually as much or as little heat as desired—without affecting air-conditioning.

HOFFMAN Controlled HEAT

Made by the makers of Hoffman Venting Valves, Supply Valves, Traps and Hoffman-Economy Pumps



TO BE SURE TO GET WHAT YOU WANT

When You Specify Maple Flooring

THE tough fibre and tight grain of Northern Hard Maple provides exceptional service under many types of difficult conditions.

It will not sliver, splinter or develop ridges when subjected to hard usage. Its lasting smooth surface makes it easy to clean and maintain at low cost.

There is only one way, however, to be certain at all times of receiving these known qualities of MFMA standard Maple—and that is whenever you specify Maple Flooring, to specify trade-marked "MFMA" Maple.

Maple Flooring trade-marked MFMA is guaranteed to be all Hard Maple of the grade stamped thereon.

This mark also certifies standard

quality and millwork, conforming in every respect to the high standards set by the Maple Flooring Manufacturers Association.

You invite substitution if you specify merely "Maple Flooring"

when you want MFMA quality and MFMA supervision. You make sure of getting standard MFMA quality only when you specify trade-marked "MFMA" Maple —available in strips or blocks.

MAPLE FLOORING MANUFACTURERS ASSOCIATION

1796 McCormick Building, Chicago, Ill.

See our catalog data in Sweet's, Sec. 15/53. Let our service and research department assist you with your flooring problems. Write us.

Floor with Maple

The letters **MFMA** on Maple, Beech or Birch Flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use. **MFMA**





IT'S always fair weather for a recreation-room floor made of Armstrong's Linoleum. Spilled drinks wipe right up—with no telltale stains to embarrass the guilty guest. Built-in game-boards never wear off or lose their crisp, clear outlines.

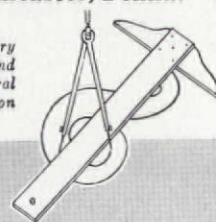
Amateur Bill Robinsons can tap to their heart's content—because the resilience of linoleum hushes noise that might disturb occupants in other parts of the house. Or, if plain, garden-variety dancing is in order, a quick coat of Linogloss Wax will transform

Armstrong's Linoleum into the kind of dance floor that the very smartest dining-out places are using.

Point by point, you'll find that Armstrong's Linoleum meets the needs of genial hosts and hostesses. And even with intricate built-in game-boards, its cost won't loom too large in the home-building budget. See Sweet's, or write now for file-sized "Public Floors of Enduring Beauty," which shows what can be done with linoleum in custom-cut designs. Armstrong Cork Products Co., Floor Div., 1203 State St., Lancaster, Penna.



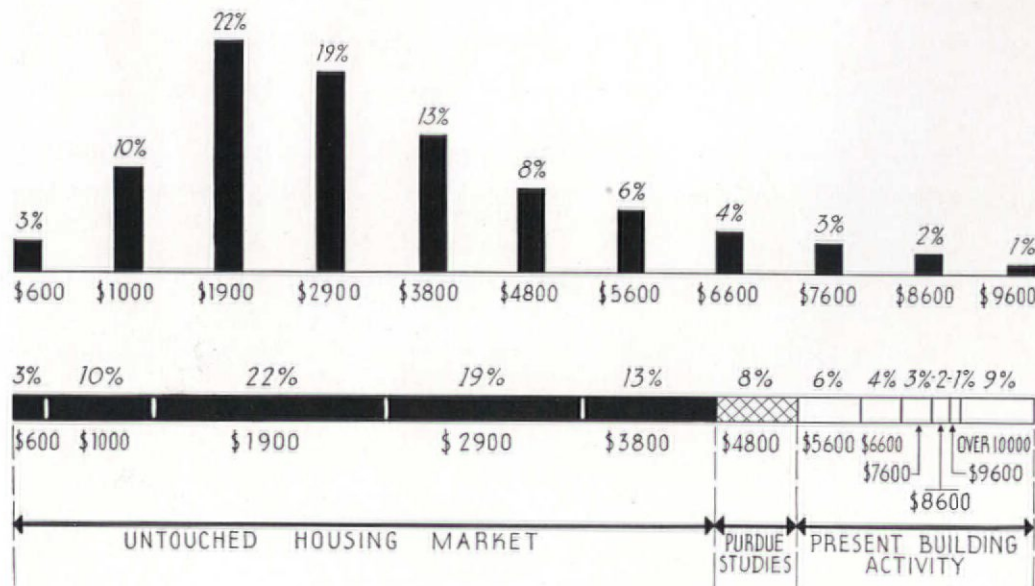
AMERICAN HOME'S model game-room with floor of No. 48 Canary Yellow Armstrong's Linoleum. Game-boards are black, red, and white. Linostrip is No. 47 Eggplant. Armstrong's Architectural Service Bureau offers complete assistance in design or installation of resilient floors.



Armstrong's **LINOLEUM FLOORS**

FORUM OF EVENTS

PURDUE'S \$5,000 HOUSE PROPHECY



CHARTS SHOWING PERCENTAGE OF FAMILIES ACCORDING TO COST OF HOUSE THEIR INCOMES WILL SUPPORT.

GIVEN \$5,000, a plot of land, and the desire to build, how much house will it buy? Not knowing exactly, but curious, Purdue University snatched from Washington Frank Watson, a realist with a social conscience, to head their Housing Research. Arriving within Purdue's none-too-cloistered confines with no program, he soon devised one; an experimental building campaign.

Mindful that one example would prove little, the Committee built nine. In each case they sought a different architect. To each they gave the same problem: A well-built, satisfactory house for an average family; parents, one boy, one girl. A garage was included as a necessity. Other items, like automatic stokers and oil burners were optional—provided the architect kept within the \$5,000 cost limit. Bids were asked from different contractors. Wholesale and special price concessions were not allowed. The whole procedure paralleled as closely as possible the actual situation that confronts the individual, prospective home-builder.

The preliminary bids revealed the interesting fact that no \$5,000 house could be built for \$5,000. In every case the contractors were well over the established maximum. The Committee hemmed, hawed and huddled; finally concluded the optimistic American standard of living was at fault. Returned all plans for readjustment.

The architects, including New York A.I.A.'s last summer small home prize-winner, J. André Fouilhoux and Chicago's General Houses Howard T. Fisher, Burnham Brothers and Hammond, etc., like good soldiers, unlimbered their art gums

and again went to work. Dining rooms were slashed. Expensive extras were sponged out entirely. Basic soundness of construction remained but no decorative frosting. Only the simplest of stock equipment passed the rigid censor.

The new plans were given the contractors for bids. This time the quoted estimates stayed within the specified maximum although some needed a shoe horn. Nevertheless nine holes were dug in the West Lafayette campus and, with academic enthusiasm, nine foundations were poured.

As the individual houses went up, charts of cost items were carefully checked and pigeon-holed for later, more detailed study. Simultaneously the Commission began studies of what housing should cost from the standpoint of the consumer. Soon concluded that the average home owner paid more for shelter than a tenant; that pride of ownership might easily drive him over the hill to the poorhouse.

Realizing the finished houses will only show how much \$5,000 will build, Purdue asks: "What of the group that hasn't \$5,000 to spend on a house?" Purdue knows full well that \$5,000 is well over the head of the mass of prospective home owners. In fact, taking the well-worn maxim that no group of medium income can afford to pay more than 25 per cent of their earnings for shelter (varying with climate and upper-bracket incomes), Purdue constructed a chart of figures based on 1929 income levels and present building costs. The 1929 figures were chosen rather than 1935 on the sound theory that a family should build in anticipation of recovery and a more normal income level. Figures were also derived from urban family in-

comes only. Farm incomes were admittedly lower and could not be calculated on the same basis. One glance at the figures tells what Purdue already knows: 75 per cent of U. S. families could not afford to build a home costing \$5,100. Similarly, 66 per cent would find \$4,200 too expensive. Fifty-three per cent would default on \$3,400 and thirty-five per cent could not even support \$2,500.

Until the nine houses are completed, and costs of all component parts have been carefully studied, Purdue will voice no opinion, offer no solution to lowering building costs. But aware that these costs fall into two general categories, materials and labor (of financing Purdue says naught), and that under the present system the former cannot, the latter will not yield, Purdue softly generalizes: "Preliminary studies reveal that it is all but impossible in the present state of the art of construction to erect well-built, satisfactory and salable houses at a figure much lower than \$5,000." Then gently suggests that organized labor cooperate on reducing costs; that contractors look for new developments with cost reduction possibilities.

Early last month, scarcely 150 miles away from where these nine experimental units are being put up, Rexford G. Tugwell, Chief of the Resettlement Administration, addressing the Regional Planning Commission in Cincinnati while on an official tour of inspection to the Mt. Healthy Resettlement, a project to which Cincinnati's Chamber of Commerce and real estate groups have long been hostile, said: "If private industry persists in its refusal to exploit the possibilities of building houses

(Continued on page 41)



Catering to a nation's GOOD TASTE...



Main kitchen of Waldorf-Astoria Hotel, New York, N. Y. This kitchen is fully equipped with Monel Metal Food Service Equipment. Installed by Nathan Straus & Sons, New York, N. Y. Architect: Schultz & Weaver, New York, N. Y.

Where you find good
food . . . behind the
scenes you often find

MONEL METAL

IN fine kitchens all over the land . . . kitchens like these, where chefs take pride in their art . . . it's a rare exception to find one that doesn't use equipment of Monel Metal. What are the reasons?

It goes without saying that the chef likes Monel Metal equipment. He likes the way it withstands the vigorous, frequent cleaning kitchens must receive. He likes the pride his staff takes in keeping it clean. He likes Monel Metal as a fitting background for his work.

But kitchens are not built solely to

suit the tastes of the chef. They are built to use—and to show a profit. The business manager likes the way Monel Metal keeps its sparkle after years of hard service. To him it spells low cost of maintenance and depreciation.

The chef wants artistic and serviceable equipment for his work. The business manager has his eye on the cost ledger. Since Monel Metal meets the demands of both, it is obviously the



Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

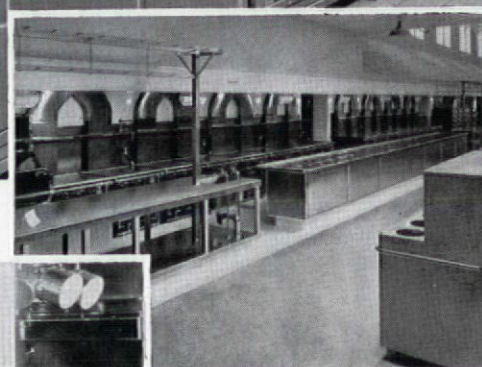
ideal metal for the modern kitchen. And it's in the finest kitchens that you find it almost invariably.

Write us for information. And send for the helpful free booklet, "The Selection of Food Service Equipment."

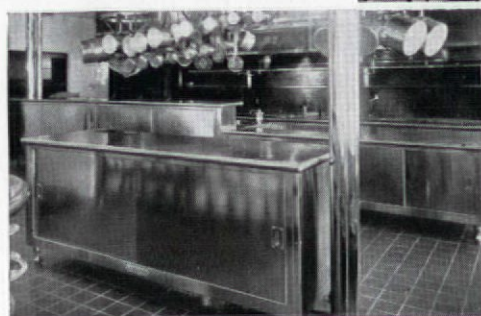


THE INTERNATIONAL NICKEL
COMPANY, INC.

67 WALL STREET NEW YORK, N. Y.



Main kitchen in Los Angeles County Hospital, Los Angeles, Cal. Monel Metal Food Service equipment installed by National Cornice Works, Los Angeles, Cal. Architects: Allied Architects Association, Los Angeles, Cal.



Monel Metal Cooks' Tables, installed in Rockefeller Center Restaurant in New York City by The Duparquet Huot & Moneuse Co. of New York City. Architects: Reinhard & Hofmeister, New York, N. Y.

AFTER 25 YEARS - THE VERDICT

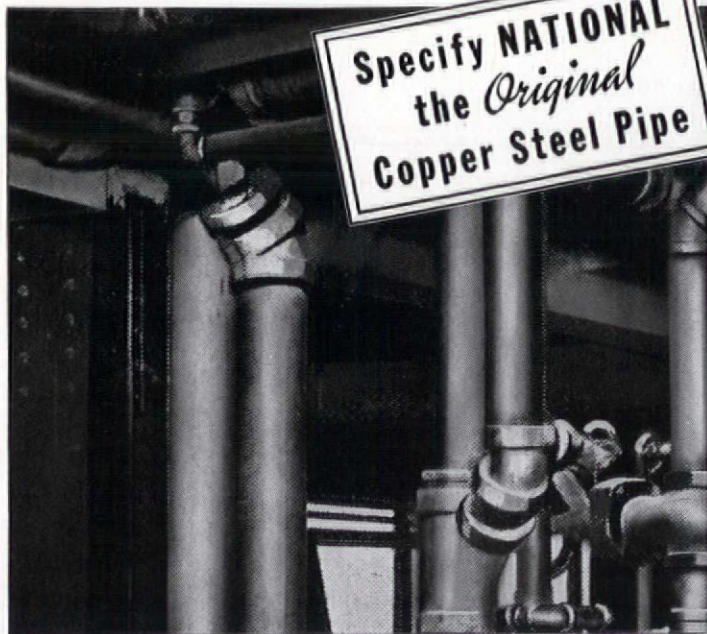
"This Pipe stays Put!"

ARCHITECTS, engineers, and builders, who years ago installed this—the original copper-steel pipe—today turn to NATIONAL Copper-Steel Pipe as a matter of course . . . and rightly so. The present excellent condition of these old pipe lines, the trouble-free service they have given, amply justify their choice.

For all types of buildings—in the soil, vent and waste lines, rain leaders and steam returns—wherever alternate wet and dry conditions induce corrosion—NATIONAL Copper-Steel Pipe provides simple and economical protection.

Costing only a few dollars more per ton than regular steel pipe, it will last two or three times as long. Over twenty-five years of tests and actual service records prove this.

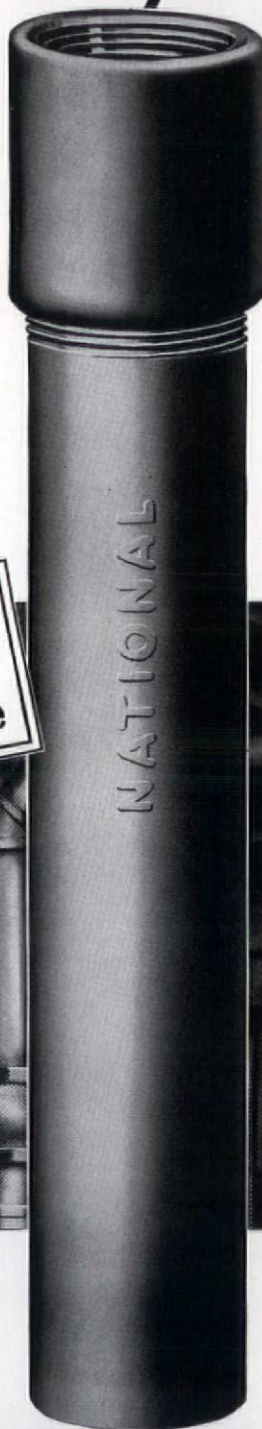
Change risk to Investment . . .



NATIONAL TUBE COMPANY
Pittsburgh, Pa.



Pacific Coast Distributors: Columbia Steel Company, San Francisco, Cal. Export Distributors: United States Steel Products Co., New York.



**"RESISTS CORROSION
IN VENT, WASTE, SOIL
LINES AND RAIN
LEADERS"**

Along with unusual corrosion resistance, NATIONAL Copper-Steel Pipe has the high strength, uniformity, ductility and other working qualities for which NATIONAL Copper-Steel Pipe is noted. Its easy installation is an important factor in speeding up construction.

For prompt identification every length of NATIONAL Copper-Steel Pipe is colored green in the smaller sizes; has two green stripes running lengthwise in the larger diameters. A copy of Bulletin No. 11 should be in your files.



NATIONAL TUBE COMPANY, Pittsburgh, Pa.

Gentlemen: Please send me copy of Bulletin No. 11 describing NATIONAL Copper-Steel Pipe.

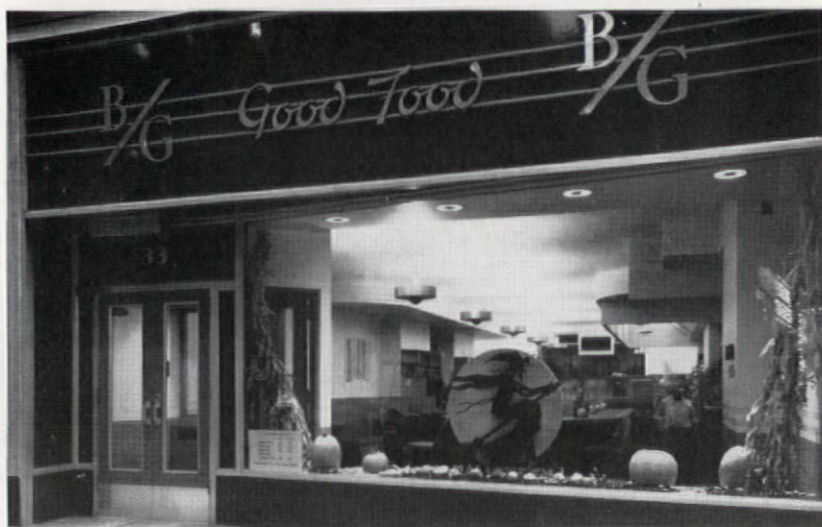
Name

Company

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UNITED STATES STEEL

Three Popular Uses of F O R M I C A



Above right: Blue Formica store front of hard-board, B/G Foods, Inc., Chicago; Right: Formica bathroom wall covering Philpot residence, Tampa, Fla., Frank Frimmer, Architect; Below: Formica covered sound-proof door new WGN Studio, Chicago, Holabird & Root, Architects.



WALL covering, store fronts, and doors are three uses in which a lot of Formica has been used by leading architects with very happy results.

This colorful modern material with its perfect surface and immunity to injury and deterioration has made possible new effects that delight the designer.

There is the widest range of color; decorative inlays of one color on another, or of metal and color provide the utmost flexibility. And because the material is hard and durable, and so inert chemically that fumes and ordinary liquids do not affect it, there is assurance of a long and satisfactory service.

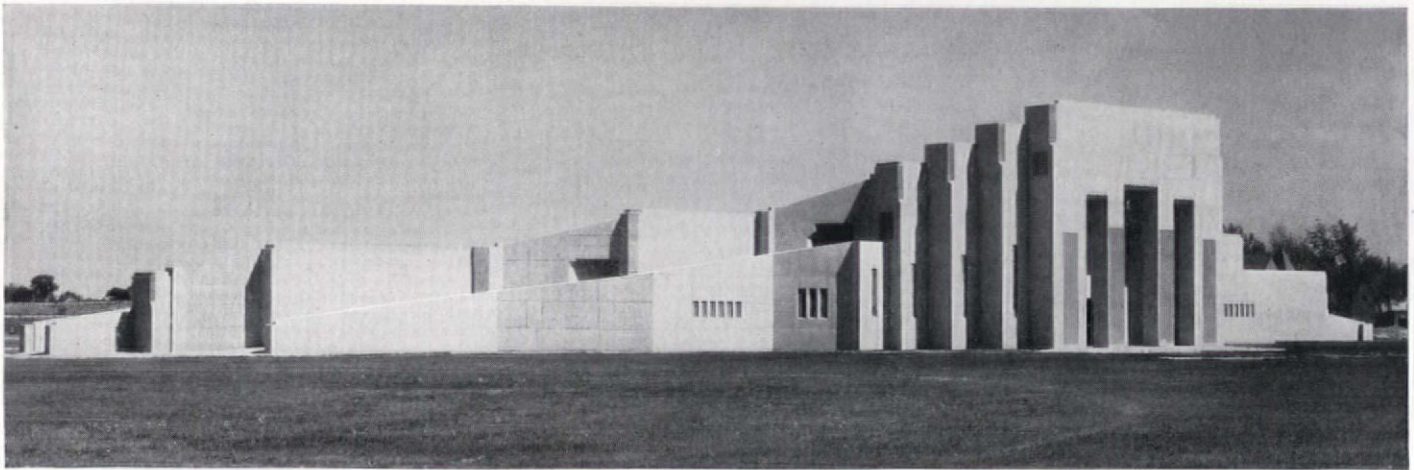
Write for the facts.

THE FORMICA INSULATION COMPANY
4620 SPRING GROVE AVENUE, CINCINNATI, OHIO

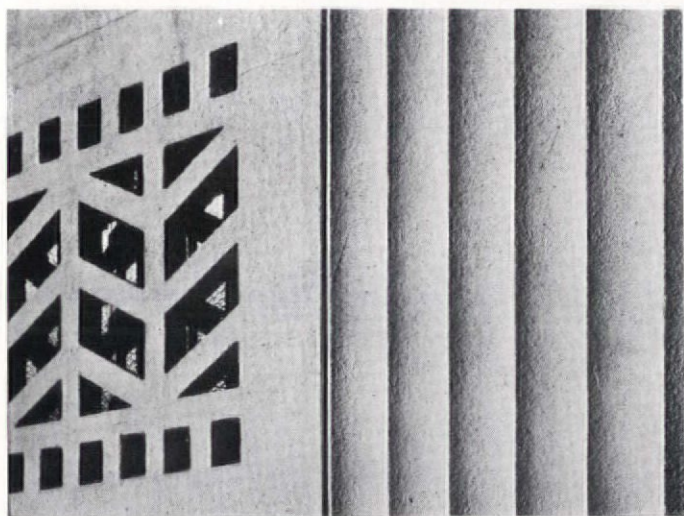
FORMICA

FOR BUILDING PURPOSES

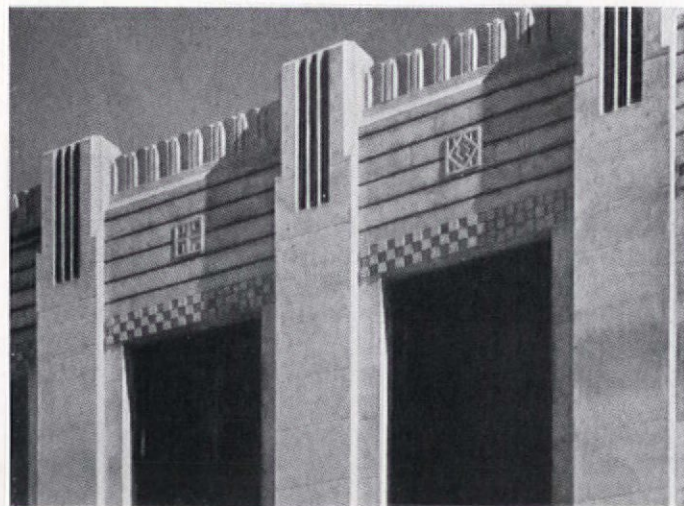
PRODUCTS AND PRACTICE



BELOIT STADIUM, BELOIT, WIS., ALLEN AND WEBSTER, ARCHITECTS, CHICAGO, ILL.



DETAIL, GYMNASIUM, UNIVERSITY OF CALIFORNIA
G. W. KELHAM, ARCHITECT



DETAIL, HIGH SCHOOL, VENICE, CALIFORNIA
AUSTIN & ASHLEY, ARCHITECTS

FORMS FOR ARCHITECTURAL CONCRETE

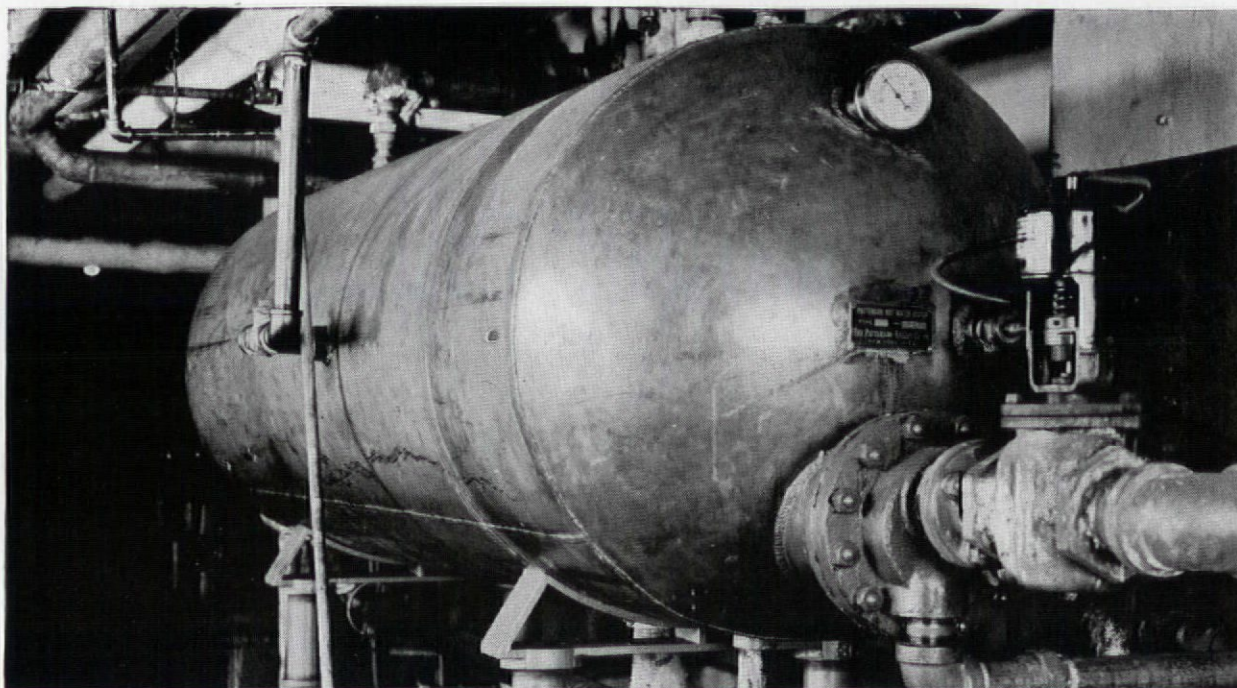
ARCHITECTURAL concrete has been used for many structures on the Pacific Coast but architects in the rest of the U.S. are just beginning to take advantage of its possibilities. Accepting concrete for structural purposes only, they have been inclined to use other materials for walls and surfaces.

Yet, concrete is a plastic material capable of taking the sharpest detail of design. It places at the disposal of the architect and designer a material ranging in texture from almost glasslike smoothness to extreme ruggedness. By using it, structural design or desired effects can dictate shape and form without being restricted by the limitations of other structural materials. Thus it offers a medium of almost unlimited artistic possibilities. It can be used for almost everything from furniture to bridges and dams. The texture and sharpness of detail depend upon the craftsmanship used in the building of forms and the selection of form material.

Architectural concrete forms do not differ fundamentally in design and construction from those used for ordinary structural concrete. The primary object of the form is no longer simply one of supporting the unhardened concrete, but of giving character to the structure through form, texture and detail.

The dearth of information in both American and foreign literature on forms for concrete construction and the rapid growth of the use of concrete as an architectural material has prompted the publication of a sixty-four page booklet by the Portland Cement Association devoted exclusively to forms for architectural concrete work. The technique and craftsmanship of such form construction are quite different from that for structural concrete although fundamentally the same principles apply. Every conceivable detail has not been included in the booklet but sufficient examples are given and

PRODUCTS AND PRACTICE *Continued on Page 66.*



This all-welded Everdur storage heater was designed and manufactured for Mellon National Bank of Pittsburgh by PATTERSON-KELLEY CO., INC. of New York. It maintains a working pressure of 100 lbs. and, because it cannot rust, will provide a plentiful supply of rust-free hot water indefinitely.

Now... a bank installs a storage heater of *rustless* EVERDUR

ANOTHER example of far-sightedness that will result in better, longer service at minimum expense for maintenance, the Mellon National Bank in Pittsburgh is now serviced by a new storage heater which *cannot* rust. Its shell is of welded Everdur Metal!

Nearly all copper, Everdur is a special non-rust alloy which combines the strength of medium carbon steel with ready weldability—at moderate cost. No wonder Everdur has enjoyed ever-growing acceptance as the ideal material for durable, rustless water tanks of every de-

scription—from domestic range boilers to giant storage heaters. Whether for a hotel, laundry, hospital, textile plant, school or brewery, Everdur equipment is available from leading manufacturers.

Equally logical and satisfactory is the use of Everdur for many other applications. Among them: air-conditioning equipment, masonry anchors, drains and ducts, electrical metallic tubing, smoke washers and window cleaner bolts. For additional data, and names of fabricators, address our office nearest you.

EVERDUR METAL

"Everdur" is a registered trade-mark identifying products of The American Brass Company, made from alloys of copper, silicon and other elements.



THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut
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EVERDUR METAL *for* TANKS

Modernizing with **LIGHT**



MACBETH COVE OR TROUGH STRIP FOR CEILING OR COLUMN TREATMENT...AS A SUSPENDED UNIT, COVE OR SOFFIT

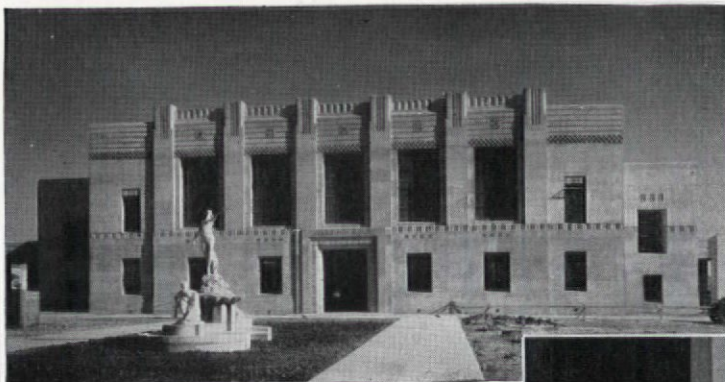
Today, relighting is certainly one of the most practical, fast and efficient methods of modernization. When the Indianapolis Power and Light Co. moved into the Electric Building, they redecorated with the magic wand of modern illumination . . . Here in the lobby we see Macbeth Cremax trough strip with ribbed castings at suspension

points and open grill work ends. The metal parts are of bronze finish to blend with the cream tone of the glass . . . Macbeth Illuminating Elements in various forms have been used to make thousands of buildings more usable, rentable and salable. Send for complete literature today. **MACBETH-EVANS GLASS COMPANY, Charleroi, Pa.**



Illuminating Elements





Main building and detail of entrance facade, Venice High School group, Venice, California. John C. Austin and Frederic Ashley, architects; G. A. Schulte, engineer; Clinton Construction Co., contractor.

“Throughout the design, the appearance of the exposed structural concrete was a major consideration and details were studied that would facilitate perfect removal of forms.”

Another distinctive school **DESIGNED** for **CONCRETE**



VENICE HIGH SCHOOL joins the growing roster of new schools designed to take advantage of the fire-safety, economy, low maintenance and architectural beauty of concrete.

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You can select from a wide variety of textures adaptable to the style without imitation of other materials. Detail is cast integral at low cost.

Concrete exteriors endure—as proved by years of service in every climate. And low bids on scores of recent

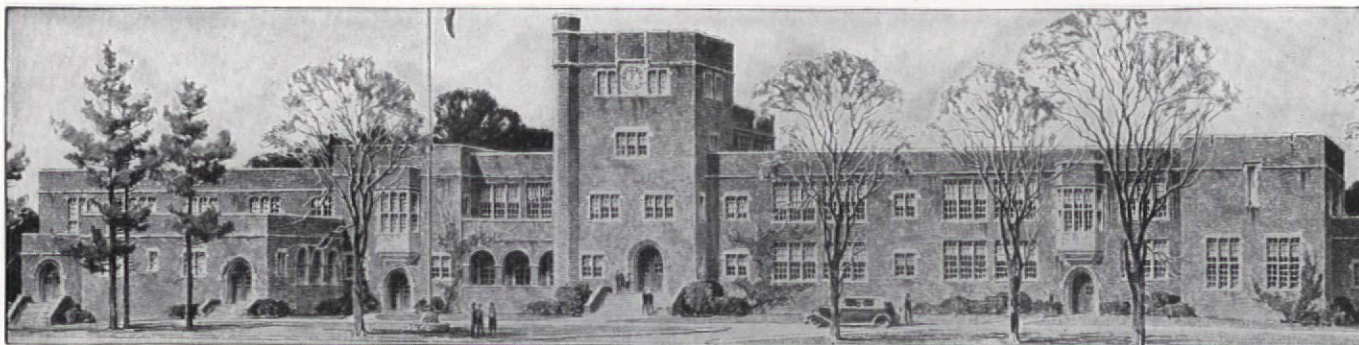
jobs show that casting walls, frame and floors together in concrete is a decidedly *economical* way to build.

Let us send you information sheets (AC Series 1 to 12) on specifications, textures, and other details. Also new 64-page book “*Forms for Architectural Concrete*” (handy for specification writer and superintendent).

Copy of “*Beauty in Walls of Architectural Concrete*” sent on request.

PORTLAND CEMENT ASSOCIATION
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Architectural Concrete



The roof that lasts with the building

This substantial new building of the Manhasset Junior and Senior High School, Manhasset, Long Island, required one of the most enduring roofs that could be procured. Such a roof was obtained by the selection of a Genasco Standard Trinidad Built-up Roof. A Genasco Trinidad Built-up Roof is the only one of the built-up type constructed with thoroughly saturated long fibered all-rag felts and water-proofed with Trinidad Lake Roofing Asphalt. This roofing asphalt is made from native Trinidad Lake Asphalt... stable and most resistant to weathering. Trinidad Lake Roofing Asphalt gives additional protection to roofing from the destructive action of the actinic or ultra-violet rays of the sun.

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Your copy of "For Your Roof" is ready to be mailed. Just fill out the attached coupon requesting it.

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STANDARD TRINIDAD
Built-up Roofing

Roof security is felt with Trinidad

On this modern High School, Manhasset, Long Island, when built last year, was applied a Genasco Standard Trinidad Built-up Roof.

Architects: Tooker & Marsh, New York, Roger H. Bullard, Associate Architect; Roofing Contractor, Cunningham Asphalt Construction Co., New York; General Contractor, John H. Eisele, New York.



See the Barber Asphalt Company's advertisement in Sweet's Catalog, Section 2, Page 8.

The Barber Asphalt Company
1600 Arch Street
Philadelphia, Pa.

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Please send me a copy of your illustrated book "For Your Roof" which carries illustrations of many prominent buildings in all parts of the country protected with Genasco Standard Trinidad Built-up Roofing.

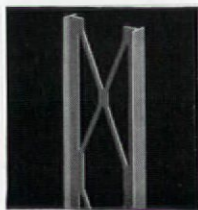
Name.....

Address.....



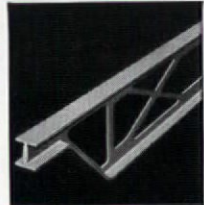
BETHLEHEM STEEL STUDS

A NEW development of great possibilities in the construction of homes—and of other light-occupancy structures, as well—is the Bethlehem Steel Stud. This is a lightweight, open-web member, particularly suited for the exterior walls and interior bearing walls of dwellings. It embodies the results of years of experience in the design and manufacture of steel building products.



BETHLEHEM OPEN-WEB STEEL JOISTS

FOR floor and roof construction. These joists may be used either alone, or in combination with the Bethlehem Stud to form a complete steel frame. A floor structure built of Bethlehem Open-Web Joists combined with concrete floor slab and plaster ceiling is fire-safe, non-shrinking, and immune to termites. Further, this construction simplifies the installation of air-conditioning.



STEEL

for Homes of Today

AMONG materials available to the architect and building contractor in providing the more livable, more permanent homes in demand today, steel ranks high.

With Bethlehem Steel Studs and Open-Web Steel Joists, a modern, fire-safe home may be planned, using steel for the framework where its strength, rigidity and freedom from shrinkage and warpage are so advantageous, while leaving the designer complete freedom in working out other features.

A home built with Bethlehem Open-Web Joists and Studs is better to live in, and a sounder investment. It will stand for generations, secure against excessive upkeep and obsolescence. It is fire-safe. It is immune to termites. It is permanently free from cracks and

misaligned doorways and windows that are caused by warping or shrinkage of the framework. It is virtually soundproof, and may be readily air-conditioned.

The construction of the framework of a dwelling, using these members, is simple and practical. Building contractors who have used these steel studs and joists in home construction are enthusiastic about their possibilities.

Of especially strong appeal to architect, builder and owner alike is the fact that the use of Bethlehem Studs and Open-Web Joists in no way influences the appearance of a home, or tends to make it conform to any particular style. These steel joists and studs lend themselves equally well to any type of architecture. Their use involves only a slight addition to construction costs.

Bethlehem Steel Products for Building Construction

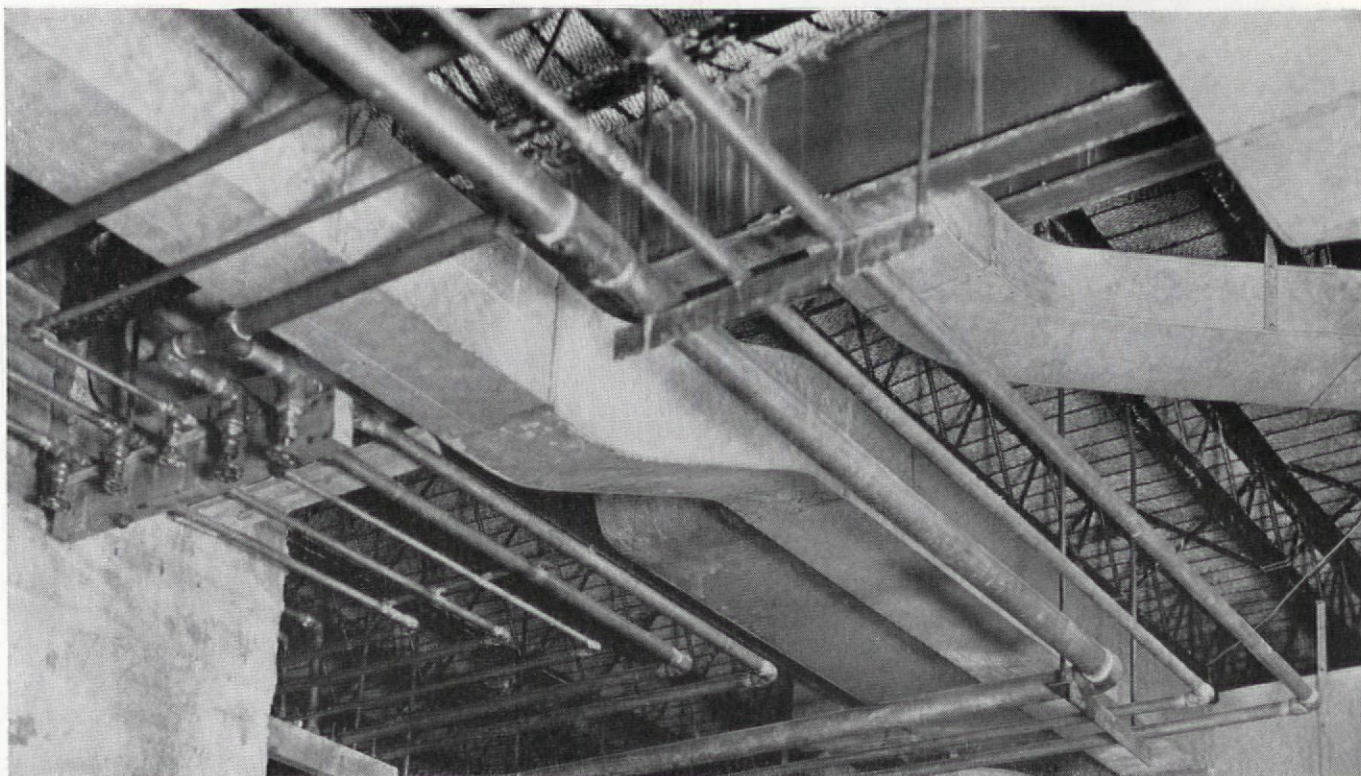
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BETH-CU-LOY GALVANIZED SHEETS • BETHLEHEM STEEL PIPE • STEEL DOOR FRAMES
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BETHLEHEM STEEL COMPANY

GENERAL OFFICES: BETHLEHEM, PA.



BASEMENT—1936 STYLE

This illustration shows part of the basement of a large residence of thoroughly modern construction. Note the air-conditioning ducts, and the steel joist construction with its reinforced concrete arch.

In company with these up-to-the-minute materials, Revere Copper Water Tube, joined with Streamline soldered Fittings, was used for all hot and cold water lines. In all, over 4,000 pounds were used, in sizes from $\frac{1}{2}$ " to 3".

The designers of this house selected Revere Copper Water Tube because it combines all the desirable features characteristic of modern construction . . . efficient operation, permanency, freedom from servicing, neatness, and compactness. In addition to these advantages, the price of Revere Copper Water Tube is surprisingly reasonable.

For large or small buildings, this tube offers the most in piping value. It will pay you to consider it in your specifications. A new book on Revere Copper Water Tube will be sent to you on request.

Other products for the building industry include:

Revere Sheet Copper for roofs, flashings, skylights, cornices, and other sheet metal work . . . Revere Leadtex (lead-coated sheet copper) for special decorative sheet metal effects . . . Revere Architectural Bronze Panel Sheets and Extruded Shapes for entrances, fronts, and grilles . . . Revere Brass Pipe and Red-Brass Pipe . . . Herculoy, Revere's patented high-strength non-corrosive alloy, for hot water storage tanks . . . and the Revere Thru-Wall Flashing or Cheney Flashing.

For further details about Revere Copper Water Tube or any other Revere products, address our Executive Offices, 230 Park Avenue, New York City.

* * *

This installation was made in a large country home in Oyster Bay, Long Island. Henry Corse, Architect; Mario di Zoppola and Co., Inc., General Schemes and Mechanical Specifications. Over two tons of Revere Copper Water Tube (Type K) were used for hot and cold water lines.

Revere Copper *and* Brass



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Ask any of our distributors about the Libbey-Owens-Ford MODERNIZATION BUDGET PLAN which makes it easy to pay for improvements.

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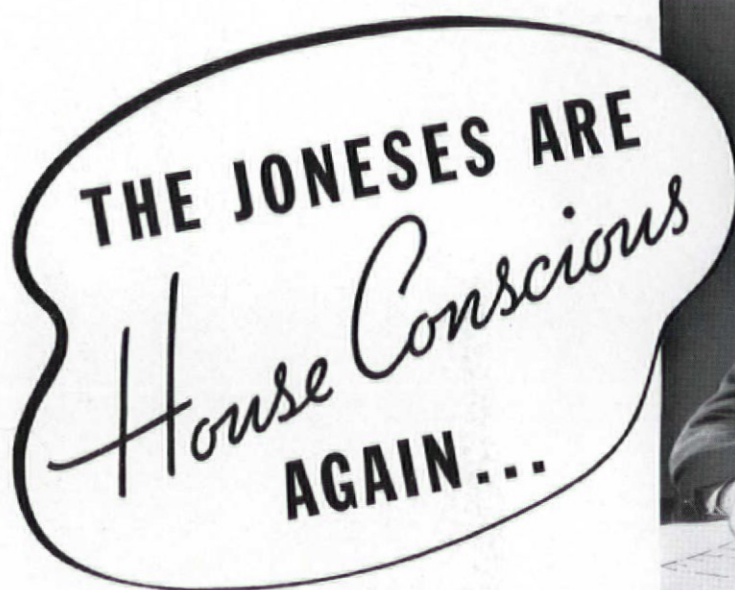
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Please send New Vitrolite Color Chart of 16 colors—10 solid hues, 6 agate shades, and variety of surface effects—and your new literature for ☐ Bathrooms and Kitchens, ☐ Store Fronts, ☐ Construction Details.

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● The Joneses have learned a lot about heating they didn't know before. Now that they're "house conscious" again, ready to go ahead, they want 1936 heating standards.

Crane Heating Systems meet these demands. There are Crane boilers for every fuel, designed to burn it with utmost economy. Crane's four-score years in the heating business assured this result. Gas and oil-fired models, of course, are fully automatic. And the long firing period of Crane solid fuel boilers is extraordinary. Every type of heat is supplied—vacuum, vapor, hot water, steam.

Crane Directed Radiation and Crane Scientific Humidification complete these perfected heating systems. For modernization or new construction in 1936, you are on solid ground, abreast of everything new in heating, if you specify Crane Systems, because you are giving homeowners what they want and what they ought to have.

The Crane Finance Plan is available for modernizing. No money down. Three years to pay. Government-approved rates.

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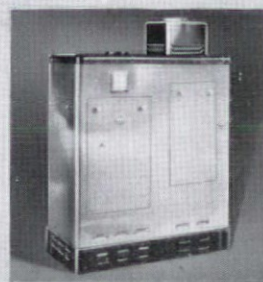
The Crane line of heating equipment includes round and square boilers for coal, coke, oil and gas firing, and for steam, vapor, vacuum and hot water heat. Also Directed Radiation, Concealed Radiation and Humidifying Radiators.



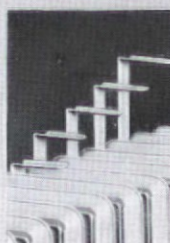
Crane D 1 Oil-Burning Boiler



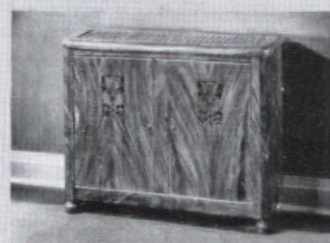
Crane Coal-Fired Sectional Boiler



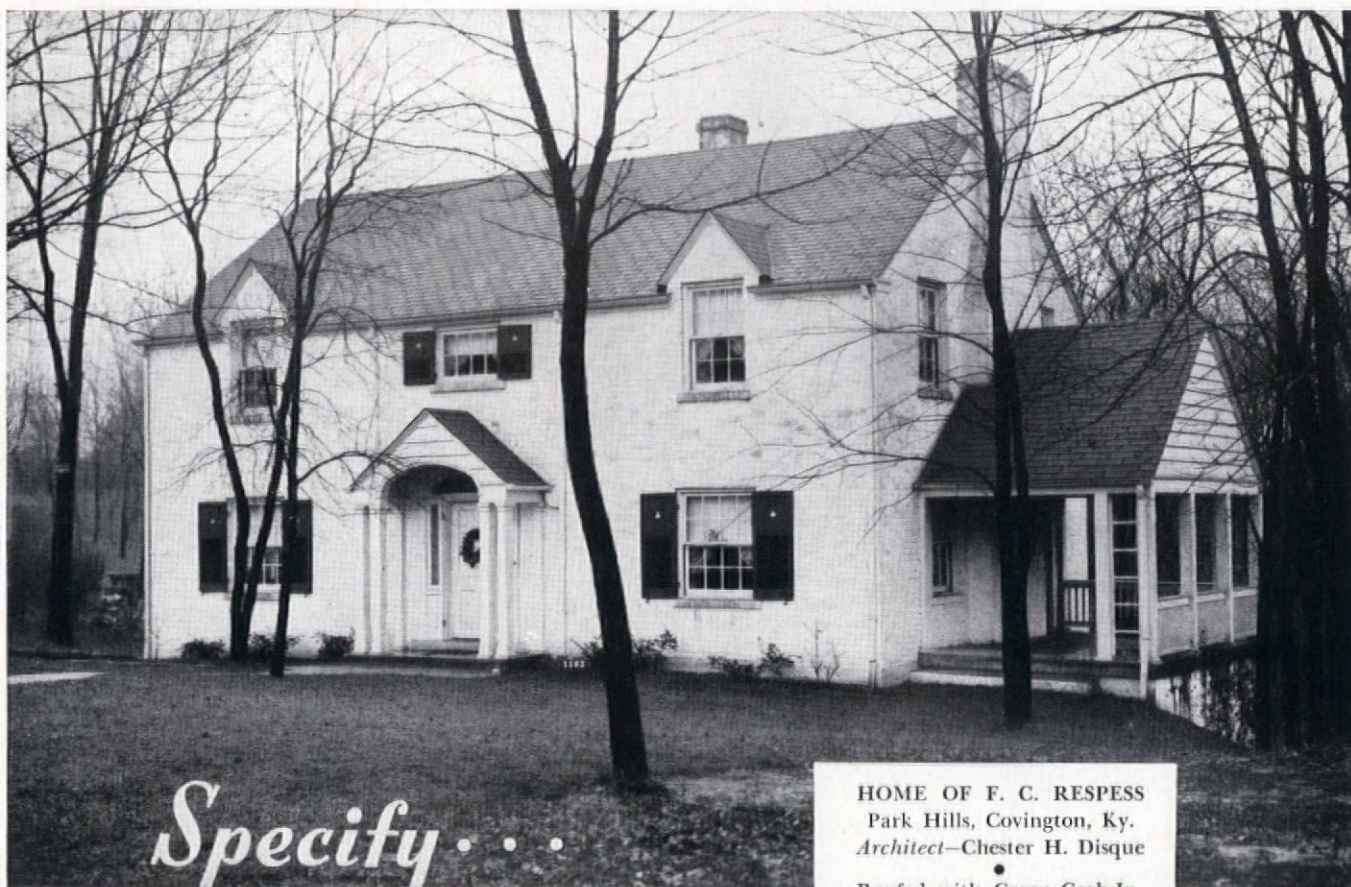
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Architect—Chester H. Disque

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335 lb., Dixie Green.

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Carey Cork-Insulated Shingles have been time-tested in every section of the country. Approved by Underwriters Laboratory. Samples and full details on request.



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Piping tailored to fit . . .
piping that is leak-proof,
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The Norge Fine Air Furnace is designed for homes costing from \$5,000 to \$50,000. It may be installed either as original equipment or to replace a warm air system. It can easily be used as a cooling system in summer. Or, if desired, it

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CASH

If we had it all in currency and should load it into trucks, we could set out with it from Washington for the Pacific Coast, shovel off one million at every milepost and still have enough left to build a fleet of battleships.

PWADMINISTRATOR ICKES, speaking of the 3.3 billion dollar works appropriation of the National Industrial Recovery Act in his book "Back to Work," June, 1935.

CREDIT

The credit system of the country is a single machine of which all the parts are interrelated and interdependent. A wooden piston in a steel motor will not function. Our unorganized home-financing system has been a wooden piston in our credit machine. The Government is seeking to replace it with a steel piston.

CHAIRMAN FAHEY of the Federal Home Loan Bank Board, in the first issue of the Federal Home Loan Bank Review, October, 1934.

\$1,000,000,000

for men and materials is the New Deal's most spectacular gesture to Building; but more significant are its efforts to succor the simple mortgage.

TOWARD the end of 1931 young men in white collars stood on the pavement of Manhattan selling bright red apples. They were otherwise unemployed.

These young men and their merchandise were but one of many sequiturs to the relief policy which the Hoover Administration had pursued for three years: the States must care for their own in times of depression. But by that winter of 1931 it became apparent to nearly everybody that the States were totally unable to discharge this Samaritan duty, and on January 22, 1932, President Hoover signed the Reconstruction Finance Corporation Act, thus at long last reversing his relief policy. The Act empowered the Government to extend almost any kind of relief, in the form of loans, through the RFC, and marked the first major attempt to legislate the country out of Depression.

No sooner had the problem of relief been shifted from the States to the Government than a change of immense significance took place. For the States, relief had been largely a question of filling hungry mouths. But when the Government took the problem over, it immediately extended relief to include the aid of industry. Thus the RFC was not only prepared to lend the States money for the jobless, but also to lend it to banks, railroads, agriculture, and a dozen other industries that appeared to be pinched for cash.

Building as an industry is second only to agriculture in size, and it was therefore inevitable that it should receive a great deal of attention from the proponents of Recovery-by-Legislation. Furthermore, it was deathly sick. A mortgage debt of 61 billion dollars in 1929 had been capped in 1930 with foreclosures to the tune of 400 million dollars. Construction had declined from a 1928 top of 6.6 billion dollars to a paltry 1.3 billion in 1932. Building by States and municipalities was virtually at a standstill. In Iowa farmers rioted at foreclosure sales and in New York dividends on guaranteed mortgages were being paid for the last time—out of capital. Architecture showed a higher incidence of unemployment than any other profession.

In short, Building—huge and spotted—presented the perfect patient for legal resuscitation. Broadly, there were two methods which the Government could use in

its treatment. It could spend cash on public works and it could bolster the mortgage market. It immediately proceeded to do both.

It is the purpose of this article to examine the methods and results of this twofold treatment on Building as an integral part of the general recovery program of the Government. Economically, the expenditure of cash in public works and the extension of credit to the mortgage market do not impinge one on the other; and they have always—with the temporary exception of the RFC—been administered separately. For the sake of clarity, therefore, we will examine the workings of Cash and Credit as separate entities.

Cash. In point of time, public works antedated mortgage credit as a recovery measure. The Hoover Administration voted 373 million dollars for this purpose to be allotted through RFC in the form of loans and grants to States. Of this amount, only 217 million dollars ever reached its goal. The rest is still hypothetically moldering in the Treasury. Most of this money went for such projects as sewers, levees, irrigation, and in fact, for almost anything but the building industry. Sole crumb was an \$8,000,000 loan to Knickerbocker Village, a limited dividend housing project in Manhattan. As a stimulant, the Hoover appropriation was something of a fiasco. The 213 million expended represented less than 10 per cent of the U. S. construction bill in a mediocre year.

That the New Deal had more pronounced ideas on the subject of public works was evident the minute it produced the National Industrial Recovery Bill. Securely ensconced under Title II was an appropriation of 3 billion dollars for a Works program. Before the bill's presentation to Congress a casual mistake* added another 300 million to the total, created the famed "Three billion three."

*Title II was turned over to Senator Wagner for inspection, who in turn passed it on to his smart Secretary Simon H. Rifkind. In a last minute conference the Senator asked his secretary if the 3 billion included 300 million for New York. "I put it in," yelled Rifkind across a dozen heads. The Senator heard, "Put it in," did.



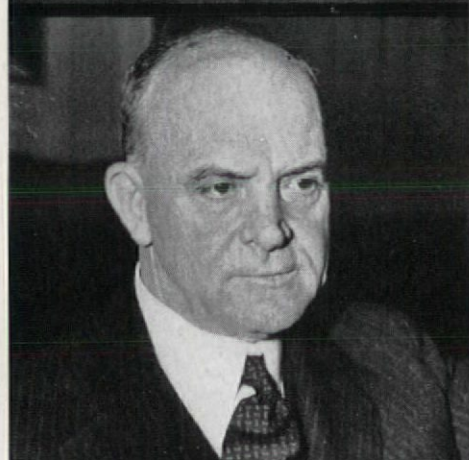
FRANKLIN DELANO ROOSEVELT



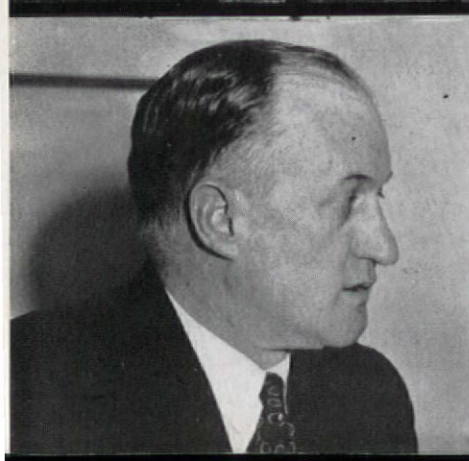
ROBERT FERDINAND WAGNER



HUGH SAMUEL JOHNSON



CHRISTIAN JOY PEOPLES



HORATIO BALCH HACKETT

On June 12, 1933, the National Industrial Recovery Bill became law, and it was immediately apparent that something new in the art of expenditure was being unveiled on Capitol Hill. The traditional method of transferring money from its clause in an Act to the people's wallet was this: the Legislature told the Administration exactly where to put it, and the Executive put most of it right there.

But the Legislature realized the impossibility of itemizing a 3.3 billion dollar expenditure with any exactitude. Accordingly it adopted the policy of earmarking only certain parts of the funds within maximum-minimum limitations, and entrusting the allocation of the rest to Presidential discretion. It repeated this formula when it handed over to him 400 million more dollars under the Emergency Appropriation Act of 1934, and did it a third time with the 4 billion dollars of the Emergency Relief Act of 1935.

This desertion of the principle of Legislative check on executive expenditure was to have a profound effect on the ultimate character of that expenditure. For the total emergency appropriation of 7.7 billion, no longer a bureaucratic neuter, became a colorful instrument for the expression of the personalities of those who administered it.

To administer the initial appropriation of 3.3 billion, the President immediately created the Public Works Administration. Following the interregnum of Colonel Donald R. Sawyer as temporary administrator, Harold LeClair Ickes, Secretary of the Interior, became permanent PWA Administrator.

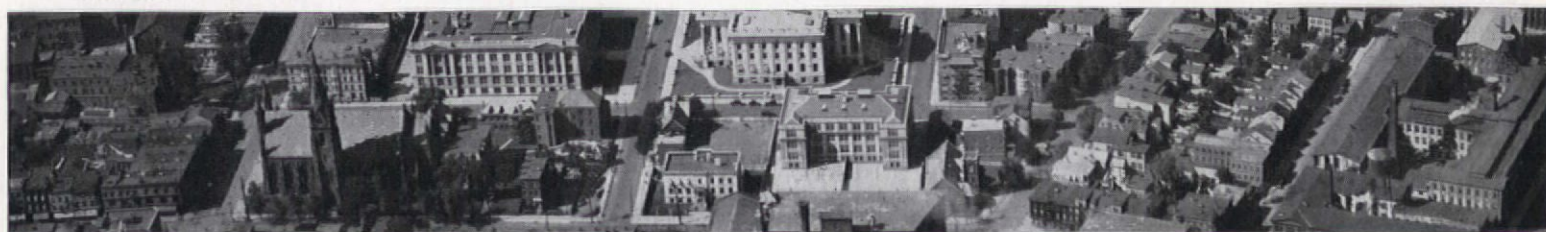
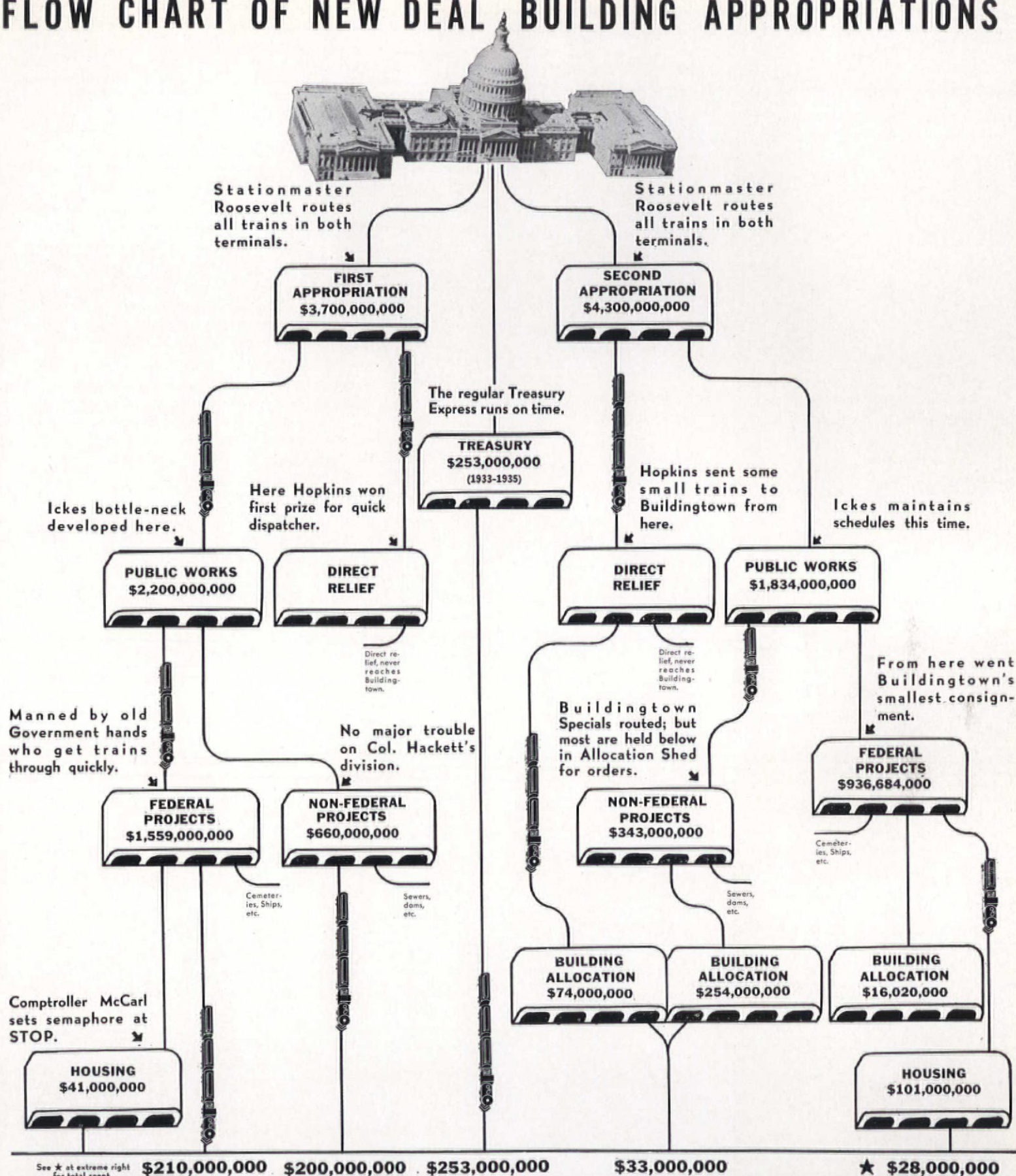
The Capitol, in those first New Deal days, had in a sense returned to 1776, and every step was the first. When Mr. Ickes was presented with the problem of setting up an organization to administer 3.3 billion dollars he had the opportunity to give his private predilections a free rein, and create PWA in his own image.

According to the terms of the National Industrial Recovery Act, public works money could be sluiced straight into existing governmental departments and also extended, on a 30 per cent grant basis, to States and municipalities. Beyond that, it gave to Administrator Ickes no hints on procedure.

The structure which he devised looked very neat on paper. The money flowed from the President to Mr. Ickes and a planning board. Thence part of it was sent to the regular Government departments, and part of it was directed toward States, municipalities, and other "political entities."

Assistant Secretary of the Treasury L. W. "Chip" Robert was placed in charge of all public works done under the Federal wing. The theory, of course, was that PWA funds should go to step up the regular program of construction which is financed year in and out by the Treasury. But under that debonair son of Georgia, Mr. Robert, the program became something less than smooth, and presently Admiral Christian Joy Peoples, Presidential crony and an expert purchasing agent, moved in. Under his egis, Federal projects advanced with dispatch. From the last four billion appropriation the Federal Government received only a miniscule 12 million dollars to spend on building, so that we need not concern ourselves with it here. But its record under the first appropriation has been good. As of November 1, 1935, when the last official count was taken, 1,320 out of 1,500 projects had been completed,

FLOW CHART OF NEW DEAL BUILDING APPROPRIATIONS



IMAGINE Congressional appropriations traveling in bright-gleaming box cars through the Public Works Administration and the Treasury to the public. Observe that only a relatively small number are routed for building construction. Under the first appropriation, nearly all these cars have reached Buildingtown, been unloaded into private pockets. But building money under the second appropriation is still largely unspent, remains earmarked in "Allocation" terminals just outside Buildingtown city limits.

Fotrichild



HARRY LLOYD HOPKINS



HAROLD LECLAIR ICKES



ANGELO ROBERT GLAS



REXFORD GUY TUGWELL



RAYMOND MOLEY

a ratio which applies equally to its building and its non-building projects. Examine the bizarre and catholic nature of the building projects in the table on page 150.

Expenditure through the governmental Departments went as smoothly as it did largely because those Departments always have their hope-chests packed with well-laid plans waiting only for money. Not nearly so smooth was that part of the spending program directed at the States and municipalities.

The procedure set up by Ickes was this: Any political entity might submit plans for some local public works to PWA. These plans were examined by a PWA board under Colonel Horatio B. Hackett, Chicago architect and Ickes crony, to determine their necessity, feasibility, and financial soundness. Were they approved, PWA extended a 30 per cent grant, a 70 per cent loan, or both.

The system seemed simple as pie. But PWA review powers were limited to the single unit in Washington. Inevitably, when the States and municipalities began pouring in project plans by the thousand for approval, these plans jammed badly in the Washington bottle-neck, and presently PWA had earned its well-deserved reputation for unnecessary slowness.

It was not until the passage of the Emergency Relief Act in 1935 that this situation was remedied. Theoretically PWA had been created as an emergency body, and the essence of emergency spending is, of course, speed. But Ickes had been so busy stressing incorruptibility and a safe return on his investment, that he had overlooked this *raison d'être* for PWA. The mercurial Harry Hopkins, FER Administrator, brought this fact pointedly to the attention of the President, and PWA was forthwith reorganized. Review bodies were set up in the various States, and the bottle-neck was removed. Furthermore, the grant limit was raised from 30 to 45 per cent to shake more cooperation out of the States. The results are detailed on page 151.

The 7.7 billion dollars of emergency money, as we have seen, was placed in the hands of the President. Of this amount, he allocated about 2.7 billion to public works, a generic term which includes everything from Boulder Dam to prefabricated outhouses for the more bucolic parts of the prairielands. Of this 2.7 billion some 875 million, or 9 per cent of the total, has been spent or earmarked for actual building of buildings. (See table, p. 147.)

Inasmuch as part of this 875 million represents grants made by PWA, the State or municipality supplying the remainder of the cost of the project, the total construction bill for which PWA can be held responsible runs to about one billion dollars. This does not include the regular Treasury appropriation, totaling \$224,000,000 over the last three years.

This one billion has been spent or allocated over 30 months, or at the rate of 400 million dollars a year. It has been spent or allocated on the type of projects which are ordinarily financed by Federal and State Governments and by municipalities. And since 1933 the State or municipality which has done building on its own is a rare bird. Up to 1930 these bodies used to spend between them on building about 666 million dollars a year. It therefore appears that PWA has carried about two-thirds of the regular U. S. public construction program for the last two and a half years.

To criticize PWAided buildings that were finally erected is in no sense to criticize, whether for good or bad, PWA. For whether the building was good in design or bad, whether it was quick or slow in erection, was only within the determination of PWA in a most left-handed manner; because, and this is a point too frequently disregarded by those who would carp, PWA has only the power of veto over its projects. It can neither design nor build anything but housing, even supposing that it had the time.

Housing. When Messers Jerome Frank, Benjamin Cohen, Raymond Moley and Rexford Tugwell were sweating out the National Industrial Recovery Bill, the paramount idea was to make it a big enough tent to cover everything that could possibly be wanted later on. For this reason as much as any other was inserted Item (d) under Section 202 which defined public works to include "construction . . . of low cost housing and slum clearance projects." But, while Administrator Ickes knew little or nothing about the subject, slum clearance fitted neatly into the ideology of the New Deal. And so he embarked on one of PWA's most curious experiments. A simple chronicle of PWA's efforts in housing is illuminating.

July, 1933—Housing Division of PWA was created with \$125,000,000 for low rent housing and slum clearance.

December, 1934—President Roosevelt impounded \$110,000,000 of the Housing Division's appropriation for direct relief. Minor appropriations upped Housing's residue to \$41,000,000.

April, 1935—The Emergency Relief Act appropriated \$450,000,000 for housing, failed to state who was to build it.

July, 1935—The Circuit Court of Appeals in Kentucky ruled that the Federal Government (in the form of PWA's Housing Division) could not exercise the power of eminent domain (condemn land) in acquiring housing sites.

September, 1935—The President ruled that the Housing Division must limit expenditure to projects which could be completed in 1936. Total thus permitted out of second allocation of \$450,000,000: \$101,000,000; total program allowed Division: 50 projects to house 29,000 people.

January, 1936—Comptroller General McCarl ruled that rents on housing projects built with funds appropriated by NIRA must be high enough to return the entire capital cost with interest equal to that paid by the U. S., which is to say that these projects could not be subsidized. The Housing Division had based ten of its projects on the assumption of 45 per cent grants from NIRA funds. The remainder are being built with funds from the Emergency Relief Appropriation, are not affected.

February, 1935—48 projects out of 50 under construction contract, six projects more than 25 per cent complete.

The most significant thing about this record is the presence of two adverse rulings on fundamental points: the right to make grants and the right to condemn land. Either of these rulings may disorganize the program. That they have occurred can at least in part be traced to a peculiar quirk in Mr. Ickes' mind: a disposition to

anticipate legislation before its enactment.

The rental of the housing projects will average about \$7 per room per month including services. A great many professional housers have scorched the pages of the thick-paper magazines with the accusation that such a rental is not "low rent." Housing Administrator Angelo R. Clas might have better cause for burning ears if anybody had yet been able to decide how low low rent housing should be. A \$7 room will house many a family who would otherwise be forced to live in a slum.

A \$7 room is not the lowest possible average price obtainable under present Government restrictions in this country for low rent housing, but it is very near to it. These projects are planned on a 45 per cent grant and a 55 per cent loan at 3 per cent interest. Should the illegality of the grant be cured, this means that the money used comes at an over-all cost of a fraction more than 1 per cent. The cost of construction per room runs around \$1,200, a sound and frugal figure.

On the other hand, PWA's low rent housing has until recently always been associated with slum clearance on the theory that new housing in slum areas did not compete with private initiative. This has resulted in the placement of over half of the projects on relatively high-priced slum sites instead of on vacant and therefore cheaper land.

All projects are amortized over a period of 60 years. This means that the buildings must have an economic life of this duration if the Government is to recoup its 55 per cent loan. Structurally, the buildings are capable of lasting twice the time. Whether they will become outmoded because of poor placement in growing communities, or for other reasons dependent on sound planning, remains to be seen.

From its experiences in housing the Government can draw one pragmatic conclusion: Building at \$1,200 the room with 1 per cent money, on land that averages 34 cents per sq. ft., the average room rental will be about \$7. Therefore, to achieve a rental cheap enough to house the lowest steady income group—at a country-wide average of \$4 a room—it will be necessary either to more than halve construction costs or double grant ratios. And the Government has already drawn one practical conclusion: so intimate an undertaking as housing cannot be properly carried on through a central administration. Mr. Ickes has decentralized his authority, conceding it to State bodies in the form of Housing Authorities wherever possible. And privately it has been sworn that never again will the U. S. by itself become the builder of low cost housing. To watch sternly, lend leniently, grant occasionally, and by all means pray, is job enough.

R. A. On charts you will discover that the Resettlement Administration lies under the arm of PWA, but this is essentially a misconception. Under its banner are a group of housers cooped up in Evelyn Walsh's gallery-festooned "mansion" in Washington, every one of them working in the blissful isolation of the truly scientific approach, every one of them completely detached from the New Deal scene.

One of the major ideas behind the Resettlement Administration is to provide semi-agricultural suburban communities for those classes of people who are economically handicapped by seasonal employment, and, broadly

(Continued on page 152)

FEDERAL BUILDING PROJECTS

Detailed below are the allocations made to the Government itself for Building under the first (NIRA) emergency program. Ninety-five per cent of these allocations have been expended. Under the second (ERA) emergency program, the Government built insignificantly. Remember that the entire bill for each Federal project is paid by PWA alone.

DEPARTMENT OF AGRICULTURE	\$ 1,212,000
Field stations, buildings for the Alaska game commission, for the Bureau of Chemistry, for the Food and Drug Commission, etc.	
DEPARTMENT OF COMMERCE	241,000
Construction and repair of fish hatcheries, etc.	
DEPARTMENT OF THE INTERIOR	40,340,000
Schools for Alaska, internes' residence for Freedman's Hospital, library for Howard University, leper asylum for the Virgin Islands, 23 public health buildings for Puerto Rico, subsistence homesteads, etc.	
DEPARTMENT OF JUSTICE	842,000
National training school, prisons, etc.	
DEPARTMENT OF LABOR	2,071,000
Construction work on Ellis Island, immigration stations, etc.	
DEPARTMENT OF THE TREASURY *	88,760,000
Quarantine stations, post offices (\$44,800,000), marine hospitals, air conditioning for Treasury Building, new building for Department of the Interior (\$11,110,000), etc.	
DEPARTMENT OF THE ARMY	71,045,000
Construction and repair of national guard camps and Army posts, etc.	
INDEPENDENT OFFICES	5,265,000
Architect of the Capitol, high school at Balboa, veterans' hospital at Roanoke, etc. Not included: \$31,000,000 for Resettlement "greenbelts," virtually untapped.	
TOTAL	\$209,776,000

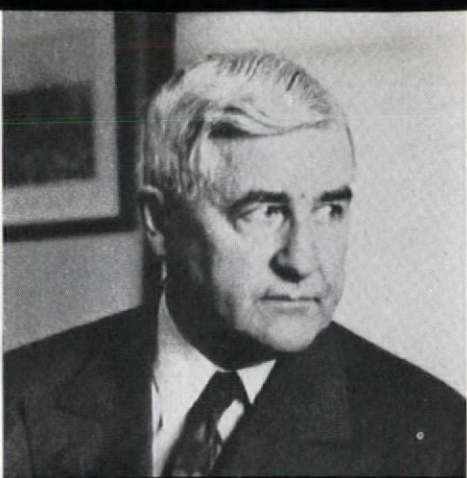
*Not to be confused with the regular Treasury appropriation.

NON-FEDERAL BUILDING PROJECTS

Here are the allocations made by PWA to States and municipalities under both the NIRA and the ERA emergency programs. About 90 per cent of the first allocations, only a miniscule amount of the second, have been expended. PWA foots 30 per cent of the projects under the first allocations, 45 per cent under the second. States and municipalities have promised to pay for the rest.

	NIRA (1933)	ERA (1935)
HOUSING DIVISION PROJECTS *	\$ 41,338,700	\$101,028,000
 EDUCATIONAL BUILDINGS	 116,835,517	 194,671,722
Secondary schools	93,491,169	170,769,135
Colleges and universities	22,267,848	21,089,412
Other educational institutions	386,400	1,914,129
Public libraries	690,100	899,046
 MUNICIPAL BUILDINGS	 15,098,116	 12,280,327
Municipal auditoriums	3,743,750	1,792,122
City and town halls	4,051,050	5,924,580
Court houses	5,415,895	3,568,677
Fire and police stations	1,887,421	934,948
 INSTITUTIONAL BUILDINGS, ETC.	 68,021,718	 47,558,324
Hospitals and other institutions	35,366,619	29,486,915
Penal institutions	6,839,900	1,482,397
Social, recreational buildings	702,894	1,651,412
Residential	692,725	67,400
Office and administrative	1,034,100	1,124,885
Warehouses, laboratories, shops, etc.	1,840,200	1,108,234
Miscellaneous	21,545,280	12,637,081
 TOTAL	 \$241,294,051	 \$355,538,373

*Includes appropriations of \$113,700,000 which are Federal in that they are earmarked for projects whose cost the Government alone will meet.



JESSE HOLMAN JONES



THOMAS GARDINER CORCORAN



JOHN HENRY FAHEY



PRESTON DELANO



FRANK COMERFORD WALKER

speaking, for those others who feel like joining them.

In August, 1935, the President felt the need of correlating several miscellaneous activities in his New Deal and formed this Administration. Into it went the Rural Rehabilitation Division of FERA, the Subsistence Homestead Unit of the Department of the Interior and the Land Policy Section of the AAA. After patching what it could of the inefficiency so widely publicized in the Subsistence Homestead's ventures in housing for the miners of Reedsville, West Va., the new Administration embarked on the construction of four "greenbelt" suburban developments. Under the Emergency Relief Appropriation Act, it was given 31 million dollars. On October 11 of the same year planning was begun on the first of these developments at Berwyn Heights, Maryland. It will provide housing and complete community facilities for 1,000 families chosen from Washington and the surrounding Maryland area—if a rumored Congressional investigation does not scotch the Resettlement Administration first.

Now, by table and by word, we have broadly covered the emergency program of the Government as a builder of buildings through its Public Works Administration. Of permanent legacies, PWA will be able, ten years hence, to boast three. It has stimulated the largest school building program in our history, repairing and financing the erection of some \$325,000,000 worth of educational buildings. It has hurried the U. S. conscience measurably toward confronting the social duties of low rent housing, and thereby gained acceptance for an idea which five years ago was no more than a sociologist's dream.

And finally, willy-nilly, PWA has done much to reform the antiquated constitutions of many a State. By its preference for self-liquidating projects, it has educated the State Senator to the virtue of that sophisticated encumbrance—the revenue bond. By its demands for graftless cooperation from political entities it has house-cleaned many a pungent contractual set-up between Government and contractor. And, in the getting of these demands it has shaken down many a State constitution, stripping it for more effective action.

Obverse. What the Government has done for construction is headline material. But what it has accomplished in the mortgage market is for the history books.

In 1931 the entire mortgage market of the U.S. was frozen stiff. For the building industry this meant simply that nobody wanted or could get any money to finance construction or to refinance maturing loans. And the problem faced by the Government, in its barest essential, was somehow to create both a buying and a selling market for these mortgages.

There had long been recognized two methods for achieving this. The Government could make the financial institutions more willing to give or carry mortgages by extending to them large amounts of long-term cheap money. Or it could make the builder better able to undertake a new mortgage by extending credit directly to him.

The latter method, prior to 1933, was generally regarded as unsound and tainted with radicalism. And so it was only natural that when President Hoover turned to patching his money markets that he should produce first the Reconstruction Finance Corporation and then the Home Loan Bank System.

Top. The RFC, as we have seen, was born in January, 1932, at the express request of President Hoover, and was given \$2,000,000,000 of capital stock with instructions to pour a lot of it quickly and principally into banks and railroads.

A survey of its early personnel is revealing. First chairman was Eugene Meyer, Governor of the Federal Reserve. Close behind him sat Ogden Mills. And above both as president was Charles ("Hell 'n' Maria") Dawes, whose Chicago bank was later to regret its \$80,000,000 RFC loan. Unnoticed through the successive presidencies of the aged Cowles of Des Moines, and the super-cautious Atlee Pomerene was Jesse Jones, a genial but somewhat obscured member of the Board.

But by far the most significant man to be connected with Hoover's RFC did not even appear on its letterhead. He was a friend of Eugene Meyer's, a young Irish lawyer who had spent an honorific year under Justice Oliver Wendell Holmes before setting up his own practice in New York. He had been summoned to Washington to help formulate RFC. His name was Thomas Gardiner Corcoran, the man, who with Benjamin Cohen, was later to be held responsible for such legislation as the Security Exchange Commission Act and the Holding Companies Act. He was the first Brain Truster to hang up his hat on Capitol Hill.

Conceived as an emergency measure, RFC rapidly became a general dam to check the flow of Depression. It aided industry, bankers, railroads, farmers, building and loan men, finally got around to dispensing Government relief to States, and, for awhile, to running the public works program.

By the time that Roosevelt was ready to assume office, it had disbursed some \$2,000,000,000, less than 10 per cent of it to the mortgage market. And the cautious policies of Chairman Pomerene had reduced its activities to insignificance. The newly elected President was ready to give RFC a decent burial when Jesse Jones walked into the White House one day and sold the RFC and himself as its new head.

The Administration has changed but the essential character of the RFC is the same; it is now the handyman of Recovery. Under Jesse Jones it has been the most eager of all agencies to spend—but legal restrictions have stayed its hand measurably, so far as building is concerned. Unlike PWA, it did not have a free hand in disbursal. Its record to date shows:

Loans to mortgage companies	\$308,000,000
Loans to building and loan associations	116,000,000

President Hoover's second contribution to the problem was also an effort to refresh it from the top. It was in the summer of 1932, just before adjournment, that he pulled the Federal Home Loan Bank system out of Congress. In form it was revealed to be a permanent credit reserve system through which private home-financing institutions could obtain short and long-term loans to be secured by their own notes at low rates.

For reasons best known to himself, President Hoover characterized the FHLB system as a quick cure for emergency trouble. That a discount bank—which the FHLB is—could help avert an emergency, nobody can deny. But to announce that it can cure an emergency is to put an economic cart before its horse. The FHLB promptly bogged into inaction, managing in the first

five months of its existence to lend but \$165,000. The Republican Administration ignored it from then on—because it had failed to accomplish what it obviously could not.

As he had done with the RFC, President Roosevelt immediately took stock of FHLB, unexpectedly decided that it had in it some good. To make sure he upped John H. Fahey in November, 1933, from the Board to the Chairmanship, "revolving" the incumbent William H. "Seaboard Bill" Stevenson back to the Board. A onetime publisher (Boston *Traveler*, New York *Evening Post*), an organizer of the U. S. Chamber of Commerce, and an investment banker in Boston for fifteen years, Fahey was well trained for the job. Preston Delano, an experienced commercial property manager on the West Coast, was installed as Governor.

The activities of this agency have been temporarily overshadowed by the appearance of the Home Owners Loan Bank in the same market—a phenomenon which we shall presently examine in more detail. But under Fahey the Federal Home Loan Bank System has achieved a solidity, a bulk of achievement which is convincing. Currently it has 3,500 members, whose loans to date total \$186,000,000, of which \$100,000,000 is outstanding.

Essentially, the FHLB system was cut to the order of the building and loan associations, as is evidenced by their virtual monopoly of the system's resources and membership. Tacit acknowledgments of this fact are two further New Deal agencies under Mr. Fahey's jurisdiction: the Federal Savings & Loan Associations and the Federal Savings & Loan Insurance Corporation. The Associations function in the same manner as the ordinary building and loan associations, except that they are Federally chartered, Federally supervised, and operated under Federal rules and regulations. The Insurance Corporation is capitalized at \$100,000,000 by the Government for the purpose of insuring anyone's savings up to \$5,000 in any Federal or State-chartered associations. The Associations number over 1,000 today, while 1,200 building and loan associations, both Federal and private, have availed themselves of insurance, for which they pay a premium of $\frac{1}{8}$ of 1 per cent.

The future of FHLB is dependent on two factors. It will grow only as it manages to spread beyond the building and loan field, which now holds 98 per cent of the memberships, and so assume its intended role as the credit reserve agency for the whole mortgage field. And it will achieve this stature, if at all, through the efforts of the enigmatic Mr. Fahey.

Mr. Fahey is an austere, Van Dyked New Englander of 62, with the knack of talking on and on very entertainingly without imparting a scintilla of information—unless he wants to, which is all too rarely to satisfy Washington. Under the New Deal he has gained recognition as one of the ablest Administrators in the Government. And he has one unimpeachable virtue to his credit: he makes things work. A good Democrat, he nevertheless is one of the few New Deal executives who has remained consistently aloof from the political patronage antics of the Donkey, a fact which serves better to place him in the enigmatic limelight which now shines down upon him.

Bottom. Mr. Fahey's FHLB is now a going concern. And yet, curiously, it gained its vitality from a close association with one of the most transitory. We have



JAMES ANDREW MOFFETT



STEWART McDONALD



WINFIELD WILLIAM RIEFLER



MILES LAMIER COLEAN



MARRINER STODDARD ECCLES

already observed that there existed two traditional methods to succor an ailing mortgage market—from the top and from the bottom. It was inevitable that Franklin D. Roosevelt should sponsor the first example of the second method ever to appear on the Depression calendar. To succor the money market from the bottom, through the borrower, was a method so involved with the personal approach that it was more than logical to the President of the New Deal—it was mandatory. And so, early in his regime, he pulled the Home Owners Loan Corporation out of his prolific hat.

The HOLC is run by the Federal Home Loan Bank Board but it has nothing whatsoever, in theory or practice, to do with the FHLB. It was simply shoved under that banner for lack of a better place to lodge. In point of fact HOLC represents the exact opposite in economic approach to the problem of frozen money markets. It insists on the efficacy of giving direct refinancing assistance to the distressed home owner rather than to the bank that holds the home owner's encumbrance. Briefly what it has done is to assume the difficult mortgage of the home owner by taking it off the bank's hands and then offering the distressed home owner longer and easier terms.

As Herbert Hoover would have in all probability freely predicted, had he been asked, the HOLC promptly bogged into politics: it looked to so many so exactly like a good thing and the Golden Day for the debtor. Then, on the accession of the estimable Fahey to the chairmanship of FHLB and hence of the HOLC, matters improved.

A worthwhile aspect of HOLC to take note of is this: The success of the whole theory implicit in HOLC was always completely dependent upon the bank's willingness to accept the arrangement proposed between HOLC and the distressed mortgagors. Thus when HOLC first offered its bonds to the banks in exchange for distress mortgages, the interest was guaranteed but the principal was not. The banks and other lenders refused in large numbers to accept them until the principal was fully backed.

Amid all the criticism that has been directed at the Government for engaging in business, it is noteworthy that little has fallen on the head of HOLC—of all the agencies the one most frankly in business. The reason is that business has been able to unload a great number of its worst mortgages on the HOLC—and to do so at its own terms.

Today HOLC has refinanced over 985,000 home owners. It has nearly three billion dollars worth of mortgages on its hands, and will soon close its lending job. It has done an emergency duty and done it well. Left on its hands to manage and finally dispose of is the worst crop of bad mortgage debts in the market.

Middle. The approach to the problem of the frozen mortgage market through the Federal Home Loan Bank System was, as we have seen, not one to bring quick results in hard times. Nor did the Home Owners Loan Corporation accomplish much besides draining off the worst encumbrances on the market. At the end of 1933 the mortgage system was still badly in need of a further measure somehow to stimulate new construction and revive private home loan activities.

To accomplish this the Federal Housing Administration was formed in June, 1934. It was predicated on a theory which was at first to prove extremely puzzling to most observers.

The basic purpose of FHA was to reopen and reorganize the mortgage market, and so to encourage new construction by easing credit. To this extent the theory paralleled that implicit in the FHLB system. But whereas the FHLB placed credit in a reservoir to be had for the taking, the FHA sailed another tack. It simply offered an inducement for private lending institutions to use the plentiful capital already at hand.

The inducement was an offer to insure lending institutions against all losses on certain types of loans and mortgages.

To perform this miracle FHA extended two types of services to accredited lending institutions. Under its Modernization Credit Plan (Title I) it insured these institutions against all losses on all insured loans for modernization, up to 20 per cent of the total reported. This insurance was granted on a "character" basis; i.e., no FHA inspection of the loans or properties was made. At the passage of the Act this type of insurance was limited to modernization up to \$2,000 on real property. The scope of the title was later enlarged to include the same type of insurance for loans on commercial buildings in amounts not greater than \$50,000. And since "modernization" was then interpreted to include the installation of machinery in plants, the FHA has in effect insured commercial loans.

Title I, which expires April 1, was conceived and pushed purely as an emergency measure, complete with a widely advertised "Modernization Program." Title II, however, was conceived and is administered as a more permanent aid to Building.

Under this title, FHA insures mortgages for the purchase, or refinancing of homes up to 80 per cent of the appraised value, but for not more than \$16,000. Furthermore, these mortgages must be amortized monthly over a period not to exceed twenty years. And the Government, while permitting the institution which holds an FHA-insured mortgage to charge a maximum of 5 per cent interest, also guarantees to pay out 3 per cent in the event of foreclosure. To create an insurance fund against such foreclosures, the mortgagor pays an annual premium of $\frac{1}{2}$ of 1 per cent of the mortgage's principal. Unlike Title I, regulations made to administer Title II provided for a thorough inspection of all projects by the FHA before issuance of the insurance.

The four men who had the largest say in the formulation of the ideas contained in the Act were Winfield Riefler, top-flight banking economist who had put in a ten-year stretch with the Bureau of Research and Statistics of the Federal Reserve Board; Marriner Eccles, of whom more later; his energetic assistant, J. M. Daiger, who used to run a financial advertising agency; and Frank Watson, brilliant young RFC legalite. These men had all been picked by the perspicacious Frank C. Walker, in his capacity as head of the President's Housing Committee. The idea was Riefler's; the others buttressed and polished.

Conscious of the fact that his Housing Committee had something very strange on their hands, President Roosevelt looked around with care to find a reassuring man to administer it. Finally he chose James A. Moffett,

long an executive of ultra-conservative Standard Oil. Mr. Moffett installed himself and his Administration, laid deep carpets on all floors, and announced that FHA was primarily a selling job.

While the banks were still shyly sucking their thumbs and looking Mr. Moffett over pretty carefully to appraise his intentions, he departed, picking as successor Stewart McDonald, his former aide-de-camp. McDonald was an old hand at the art of selling, having been long engaged in automobile finance (Moon Motors) in St. Louis. A perfect foil to the new administrator was Miles Colean. He had left an architectural practice in Chicago to join FHA as head of its Technical Division at its very inception and now has charge of its "Large Scale" Housing Division. Counterfoil was Frederick M. Babcock, whose Underwriting Manual for FHA is a brilliant and definite treatise on property valuation.

When business was finally able to make sense of FHA, it discovered a number of unexpected subtleties in the situation. In the first place, the lending institutions were able to make a first mortgage of 80 per cent. This pushed out into the economic cold the wasteful second mortgage, which could exist only so long as the first mortgage failed to cover more than 60 per cent of the financing. This elimination of expensive double-mortgage financing charges was widely heralded as the means of putting home ownership within reach of the man of small income. But that even a 20 per cent down payment is too high for general use is evidenced by an incipient demand today for a 90 per cent FHA coverage.

A lending institution can make 5 per cent on a FHA insured mortgage. And an FHA-insured mortgage is security of much greater liquidity* than the classic, unadorned mortgage instrument. These two facts have lately caused almost as much soul-searching among commercial bankers as did the crash of '29. On the one hand 5 per cent looks like a very handsome profit to any commercial bank these days. On the other hand, an old axiom holds that a commercial bank, with its short-term commitments, has no business in the long-term credit field. But the FHA-insured mortgage is nearly as liquid as your bank account, hence can be placed against commitments at any term.

President Amadeo Giannini of the Bank of America gave public thanks for FHA with the remark that it enabled him to sleep nights. President Robert V. Fleming of the American Bankers Association remarked that commercial banks could do with a few long-term commitments. And at the last counting of noses it was discovered that 41 per cent of FHA-insured mortgages had been handled by national banks and 27 per cent by State banks. Thus 68 per cent of FHA's long-term paper had found its way into commercial bank portfolios.

Just how permanent a body FHA is to be is uncertain. Through the end of January, 1936, it had done a very nice business under its emergency Modernization Plan, insuring more than a quarter of a billion dollars worth of notes. Under Title II it has accepted 190 million dollars

*The Federal Home Loan Banks will rediscount an FHA-insured loan up to 90 per cent. The Federal Reserve Banks will certify it as collateral for a loan. So, less wholeheartedly, will the RFC. The RFC Mortgage Company will purchase it without recourse at a discount of $\frac{1}{2}$ of 1 per cent.

worth of mortgages for insurance—a sum which compares favorably with the 479 million dollars of residential building undertaken in 1935 by private contract. A further power—that of insuring mortgages on low rent housing projects—has been made use of but once, the mortgagor being the owner of an apartment house in a Washington suburb.

The FHA, as insurer, has lodged deep in the mortgage market at least two basic features. The amortized single mortgage, based on high coverage and strict appraisal, has proved itself too attractive to the mortgagor and too sound to the mortgagee to be discarded. And the concept of the long-term mortgage has gained a moderate but apparently enduring place in lending institution practice.

Through the RFC, the FHLB, the HOLC, and the FHA the Government had been able to reach, in one way or another, all types of building construction but two—the metropolitan skyscraper and the smaller urban commercial building.

Up to 1931 skyscrapers and large apartments and hotels were financed almost entirely by the guaranteed mortgage certificate—a device which split huge mortgages into small, easily sold units. Since the eclipse of the certificate (*ARCH. FORUM*, Feb., 1936, p. 132) the erection of this type of structure has remained entirely dependent upon unaided private capital.

But with the creation, in 1934, of the RFC Mortgage Company, the Government has extended to private initiative an incentive to engage in the smaller type of urban, commercial construction by offering to buy mortgages on these buildings. Originally under the guidance of Earle B. Schwultz, the RFC Mortgage Company has had no formal head since his resignation in February, and its policies have not been particularly aggressive. To date it has bought 369 mortgages totaling \$1,753,000.

The Man. The Public Works Administration is the Government's great dispenser of cold cash to the building industry; and PWA is, to a large degree, Harold LeClair Ickes. On the credit-dispensing side of the Government we can make no such generality. The Federal Housing Administration, the Federal Home Loan Bank Board, and the Reconstruction Finance Corporation are all intensely individualistic units that have a way of proceeding with their own various businesses with small regard for each other. It cannot be said that John Fahey or Stewart McDonald or Jesse Jones represent of themselves even the major part of the Government's emergency credit market.

But there does exist in Washington a man who, while he does not stand for credit in the sense that Ickes stands for cash, does to a remarkable degree embody the principles now pursued to make that credit available. Marriner Stoddard Eccles is a sort of walking advertisement for the virtues of a wide base to the capital market. And as such, while he may not be the most important man for building in Washington today, he is by all odds the most significant.

Marriner Eccles, as all the world knows, is a Mormon who was engaged variously in the lumber, dairy, and banking business in Utah before he was called to Washington as Assistant to the Secretary of the Treasury under Morgenthau. Today he is Chairman of the Federal

Reserve Board, newly styled "The Board of Governors of the Federal Reserve System."

To discover the measure of Eccles' significance for Building examine the story of the Banking Act of 1935. Here, in a bundle, Eccles originally placed all his pet theories. Main thesis was that the Federal Reserve should recognize by realistic amendment a fact plain to Eccles: that U. S. banks no longer rigidly divorce their short from their long-term business. And the theory proved dynamite. Senator Carter Glass, father of the original Federal Reserve, uprose in the Senate well so choleric with shock that he found himself attacking the Banking Bill on the grounds that it was a piece of impertinence.

Two clauses vital to the mortgage market remained virtually intact after the Bill's revision. And between them they contained the Eccles philosophy on mortgages. The first made long term mortgages eligible as collateral for those commercial banks which would borrow from the Federal Reserve. The second increased the coverage, period, and amount of long-term obligations these banks could legally carry. These two clauses became operative on February 1.

A major purpose behind these two provisions is to persuade commercial banks that they might do a whole lot worse by themselves than get into the long term credit field, their short-term obligations notwithstanding. And the theory that motivated this purpose is that if the commercial banks could be persuaded to enter the long-term field—and hence inevitably the mortgage market—that field would achieve a greater liquidity and a more stable base. In a sense the credit provisions of the Banking Act are bonds posted further to certify the honorable intentions of the Federal Housing Act. It was no accident that J. M. Daiger and Marriner Eccles had a hand in the drafting of that Act. But it is revealing to observe how far afield from Reserve matters the Eccles hand at times turns up.

To peer into the future of the mortgage market is an occupation which Mr. Eccles has made his specialty. Plain to everyone is the fact that the popularization of the amortized mortgage has and will continue to simmer down the market till it approaches somewhat nearer the consistency of honest values. And equally plain is the fact that the introduction of new credit will open wide the same market.

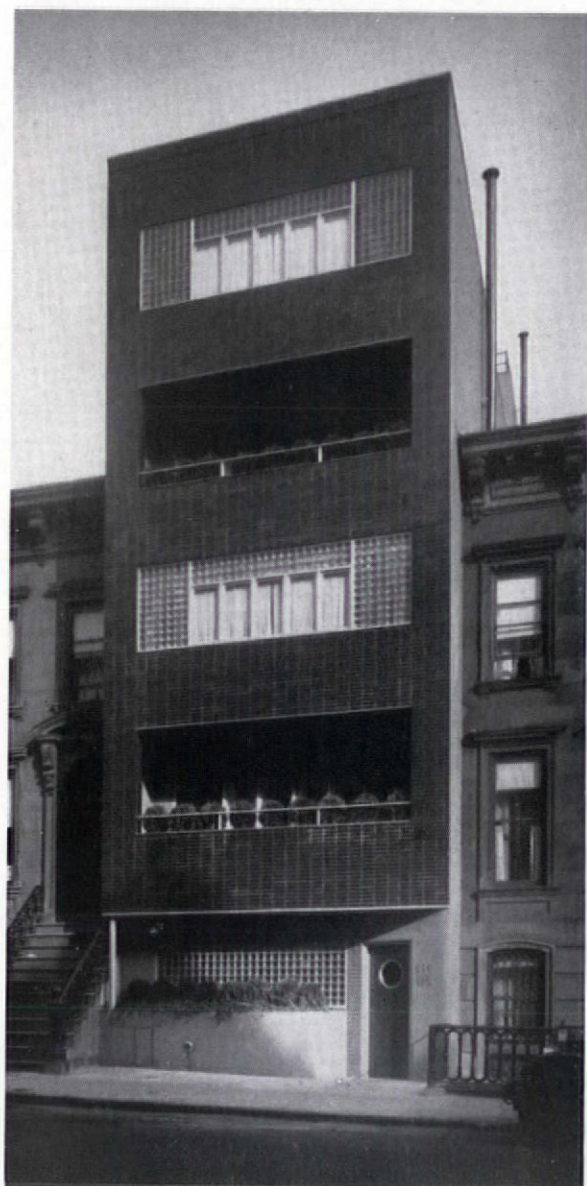
But there remains still the question of the propriety of a 20-year obligation residing in a commercial bank. It lies there while equal amounts of critical applause and alarm pour out from all the most informed sources in the country. And in the last analysis its justification for being there is dependent upon the validity of the theory of rediscount, by which a mortgage becomes liquid.

The essential of this theory is the creation of an arbitrary market where the long-term obligation can be pledged against an immediate loan. To make this market work, i.e., to "buy" in it, the Government has had to agree to inflate the credit which stems from its basic resources. This agreement has the effect of raising the effective limit of its control over the inflation of its credit to an unprecedented height. Whether or not you consider this sound practice depends on whether you consider this limit to be in fact effective. Carter Glass does not. Marriner Eccles does.

HOUSE OF MORRIS B. SANDERS, NEW YORK

MORRIS B. SANDERS, ARCHITECT

SAXTON & MENTEN, INC., BUILDERS



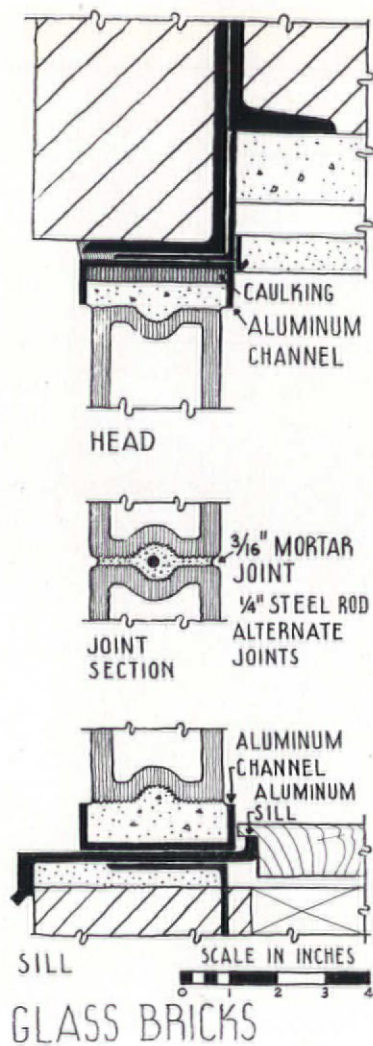
Garrison Photos

What constitutes good living in the modern metropolis? Here we have another contemporary answer. Similar in its general conception to the town house of William Lescaze,* the Sanders house rises abruptly from a stodgy row of brown-faced houses, interrupting with brutal finality the orderly sequence of uniform facades and scorning any effort to preserve the amenities. The contrast between old and new could hardly be more extreme. When brownstone houses were built, city streets were not unpleasant places: sunlight was not at a premium, nor was the air yet vitiated by the stale fumes of gasoline. Today, however, a totally different picture greets the architect, and the genial, open brownstone is superseded by a hermetically sealed refuge, designed as an escape from the noise and dirt of its surroundings. So drastic an enclosure of living space may seem unnatural to those more fortunately situated—and to a great extent it is—but until the large city is so planned as to permit decent residential accommodations, such houses as this will continue to represent a sincere and serious attempt to solve a very real problem. The solution found here was made possible by two developments, both comparatively new: glass brick and air conditioning. The former permits the construction of translucent walls, insulators against noise and cold; the latter furnishes air independently of windows. Such a combination of new materials and techniques could result only in a modern exterior. As may be seen from the photograph, the building is divided into three horizontal units: an architect's office and drafting room occupies the ground floor; those above contain two duplex apartments, the lower one rented

*See THE ARCHITECTURAL FORUM, Dec. 1934.

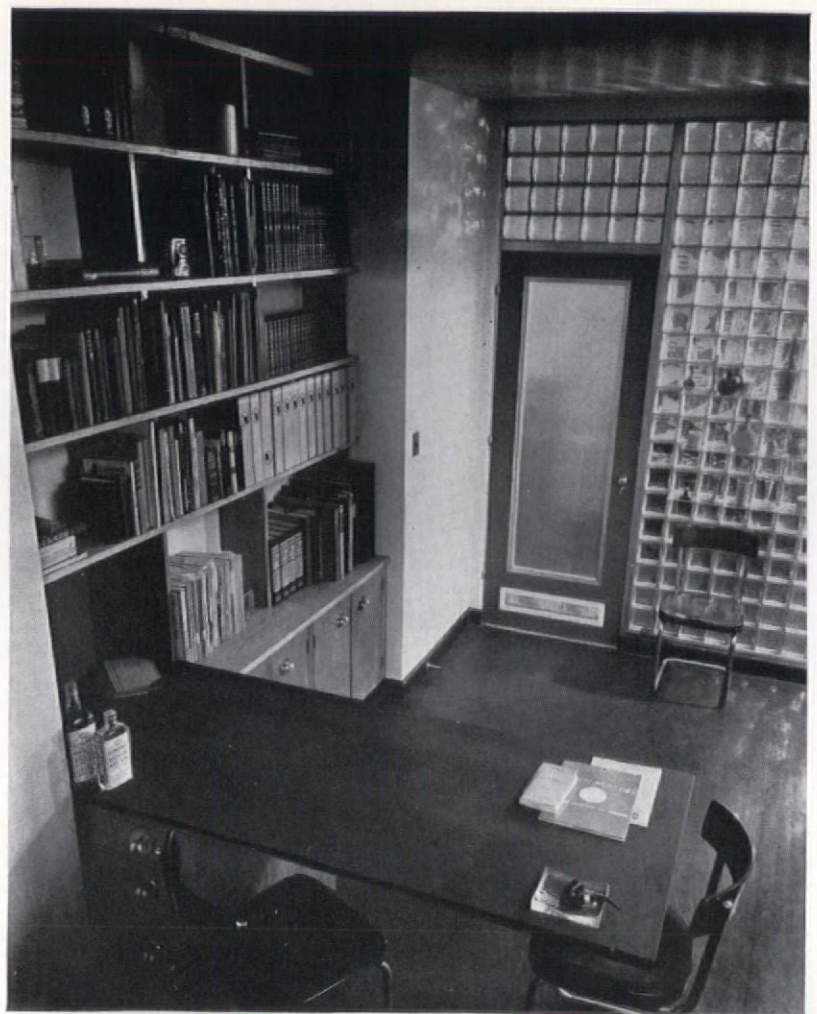


ENTRANCE DETAIL

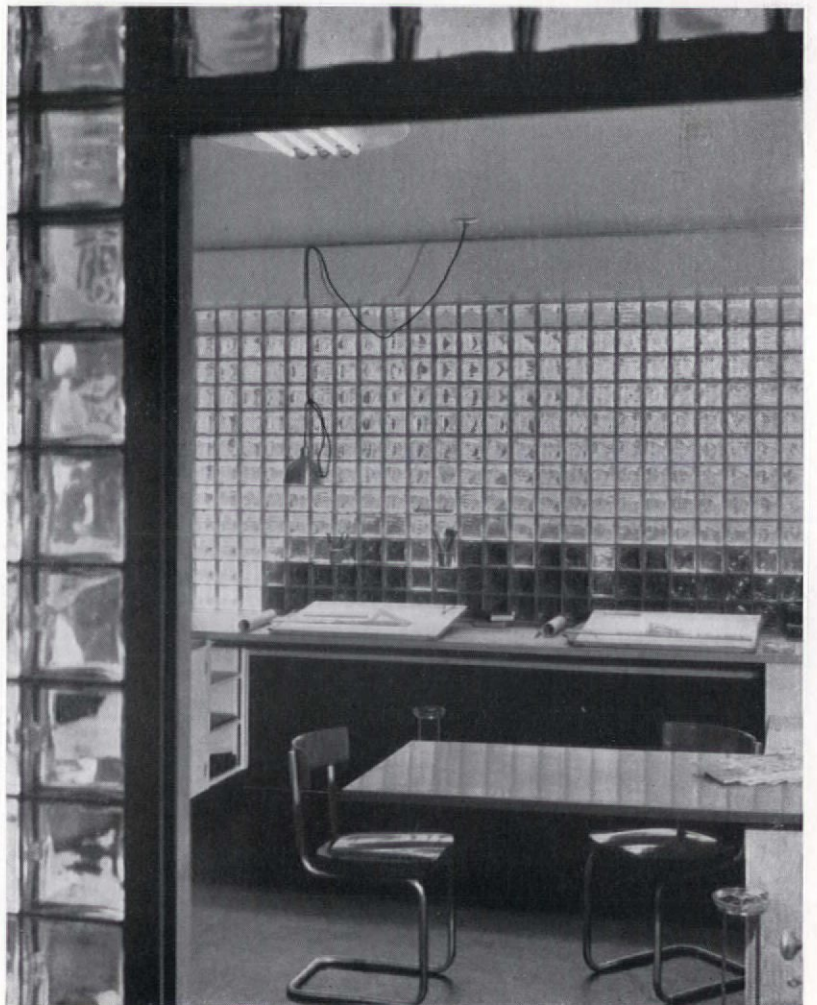


GLASS BRICKS

while the one above is occupied by the owner. To soften the machine-like severity of the facade, and possibly to overcome a sense of too close confinement, loggias have been introduced on each of the living room floors, their walls being a combination of glass block and plate glass. Planting on the loggias and at the street level also improves the appearance of the house. It is from within that the glass walls appear to best advantage. In the office; for example, ample light is admitted without loss of privacy, and an interior partition of the same material transmits a considerable amount of daylight into the reception room. The office is compactly designed, with numerous cupboards providing storage space. Metal tube furniture is at its best in such rooms as these, not only because it has the same severely simple character as the rest of the room, but also because it occupies less apparent space than any other kind.



OFFICE INTERIORS





LIVING ROOM TOWARD DINING ROOM

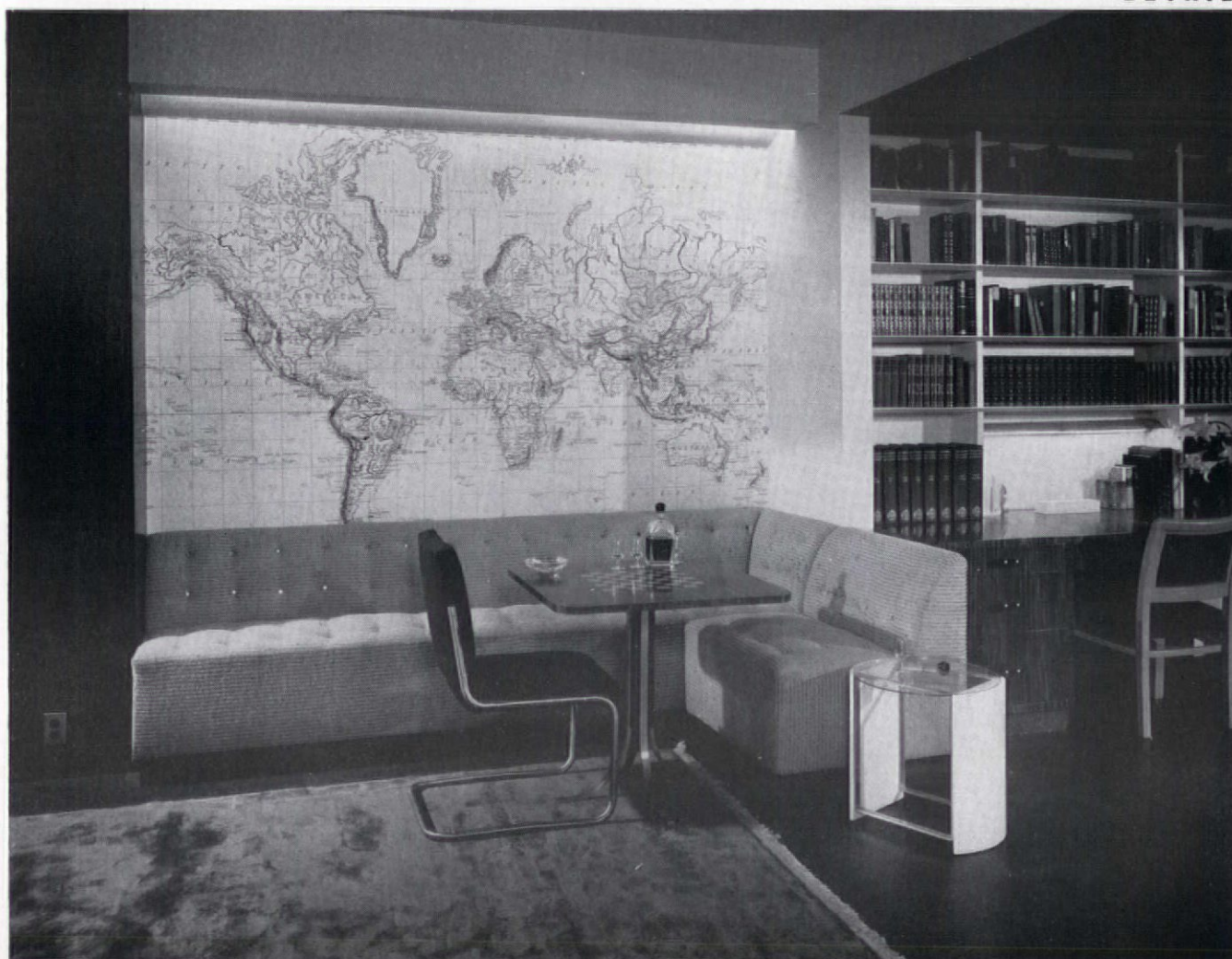
DETAIL



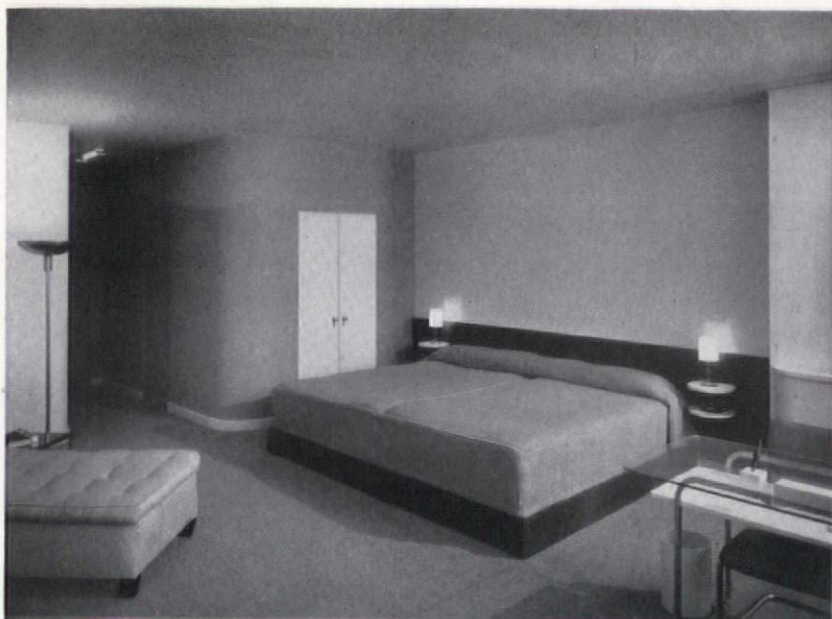


DINING ROOM TOWARD LIVING ROOM

DETAIL







BED ROOM

An interesting piece of built-in furniture is the desk, where the top, supported on angle irons, is rigid without the use of legs. The interiors of the owner's apartment have been most successfully designed to create an effect of spaciousness, particularly on the living room floor, where an open plan throws living room, dining room, and foyer into one single area. Considering the width of the building, which is only 19 ft., the achievement of the designer in making a luxurious interior is all the more remarkable. The foyer, usually a total loss as far as use is concerned, is here furnished with book shelves, an inconspicuous built-in desk, and cupboards, and is separated from the living room only by a dropped ceiling and the projection of a seat in the adjoining alcove. The decoration of the rooms consists chiefly of necessary elements, such as book shelves and built-in furniture, while the glass blocks of the outer wall have in themselves a pattern which requires no further enhancement. The only applied decoration is the black line map of the world on the wall of the alcove. Taken as a whole, the living room floor is conspicuously lacking in the coldness of many modern interiors, a fact well demonstrated by the ease with which the old Italian table fits into its new surroundings. The large bedroom on the floor above is somewhat more austere, but here too the effect is one of restfulness rather than bareness. As on the other floor equipment is built in wherever possible: no chests of drawers or dressing tables stand out to clutter up the room. One of the pleasantest rooms in the house, and facing south, it is used by the owner's wife as a sitting room and study. All of the furniture, here and in the rest of the apartment, was specially built to the architect's designs. The storage spaces for clothes have been very carefully worked out, with a whole series of trays and shelves for hats, shoes, and other articles that are ordinarily kept in a

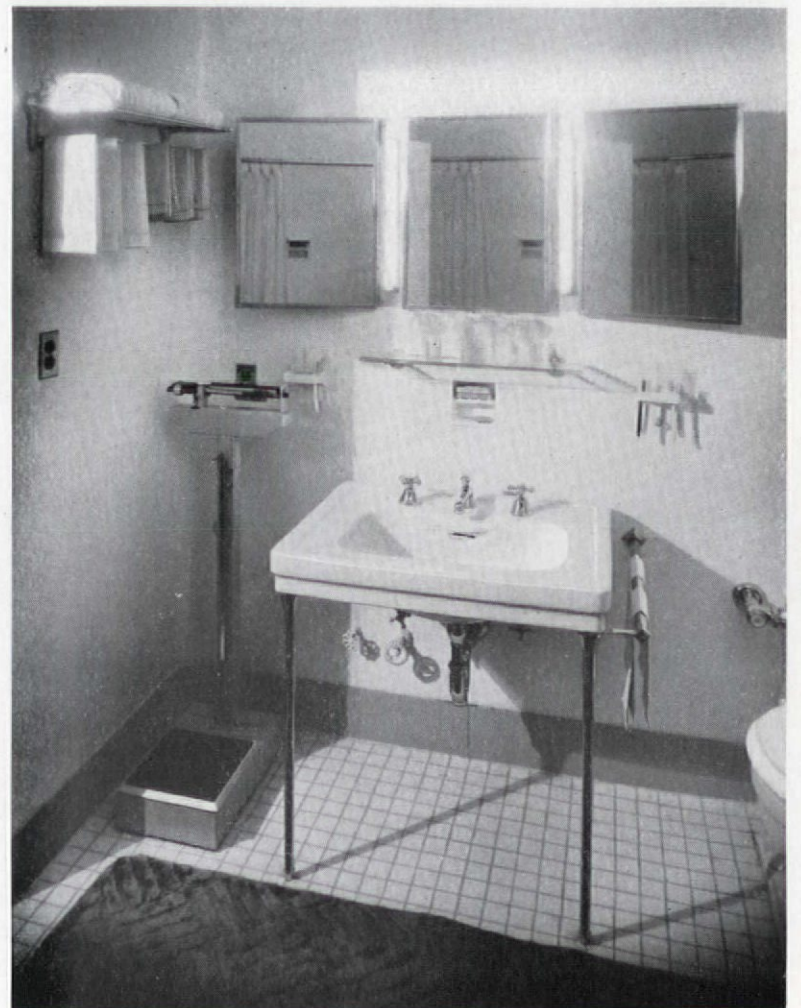


DETAILS

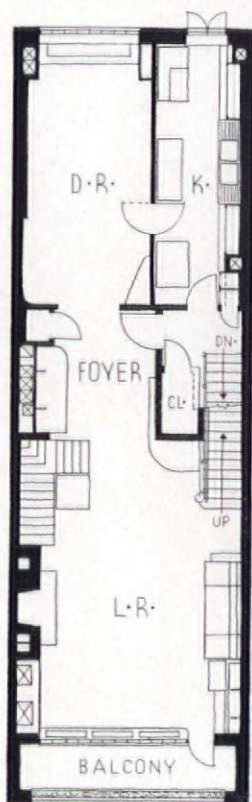




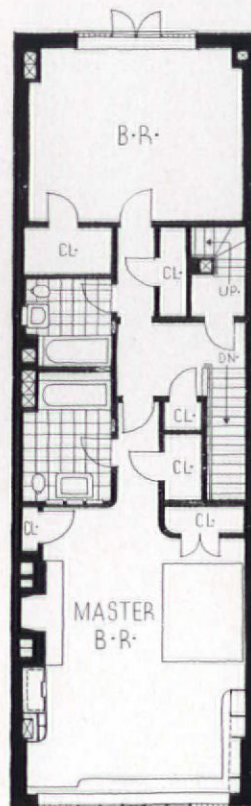
single large closet with suits and dresses. A built-in dressing table is unobtrusively set in a corner near the window. The master's bath is a plain but well-appointed room, with a most ingenious use of standard medicine cabinets to provide three mirrors. Set side by side, separated by a pair of lumiline bulbs, these three cabinets triple the usual storage space at little greater cost than a set of mirrors. Tube lights similar to those in the bath have been installed throughout the apartment. They provide ample light with little glare and have definite decorative possibilities in the modern interior. The service rooms, particularly the kitchens, are necessarily rather cramped. One of the chief difficulties in planning on such a narrow lot is the provision of adequate space for the services. Here the kitchen has been built like a galley, with the fixtures well placed.



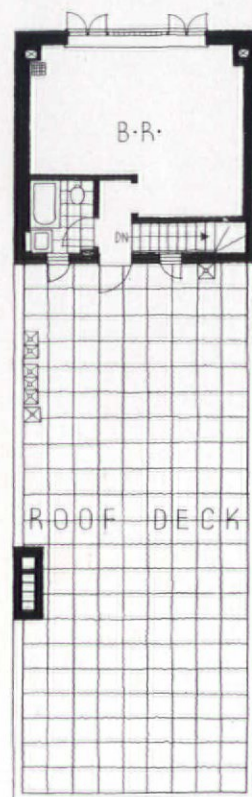
The plans show clearly the organization of space in the various apartments. The duplex occupying the second and third floors is somewhat more restricted in plan than the apartment above, due to the necessity of providing two pairs of stairs in a very limited space. On the fourth floor the advantages of an open plan are apparent, with certain portions of the living room accented by the placing of furniture. The penthouse bedroom is of sufficient size to serve as a studio if desired; its one large window faces north. The roof deck has not been designed for use as the amount of dirt and soot in New York air, except at great height, makes such arrangements generally unsuitable.



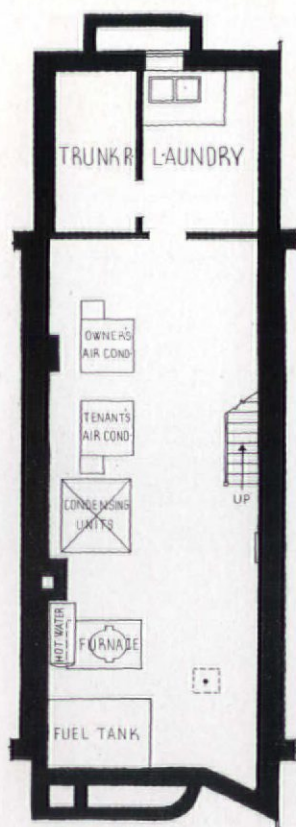
FOURTH FLOOR



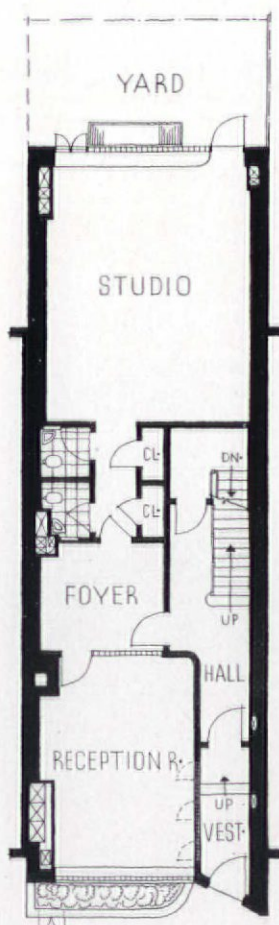
FIFTH FLOOR



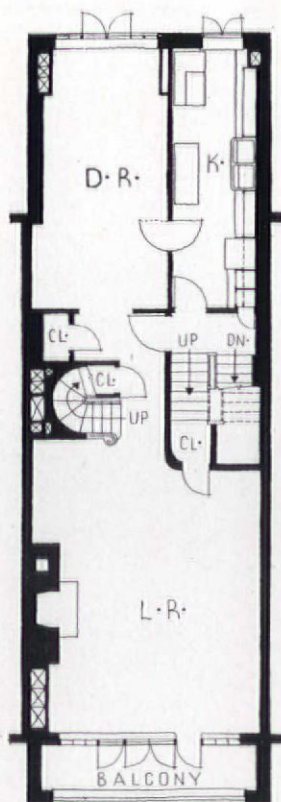
PENT HOUSE & ROOF



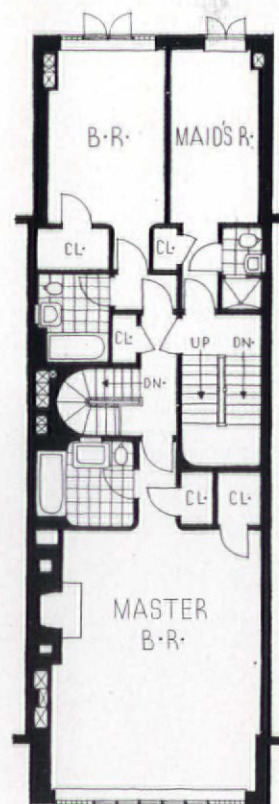
BASEMENT



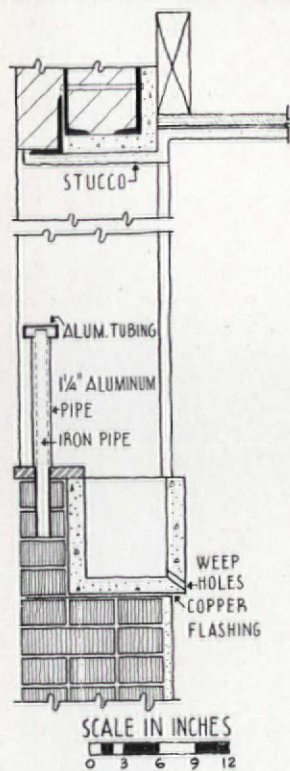
FIRST FLOOR



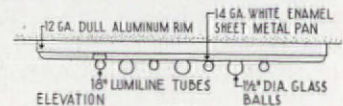
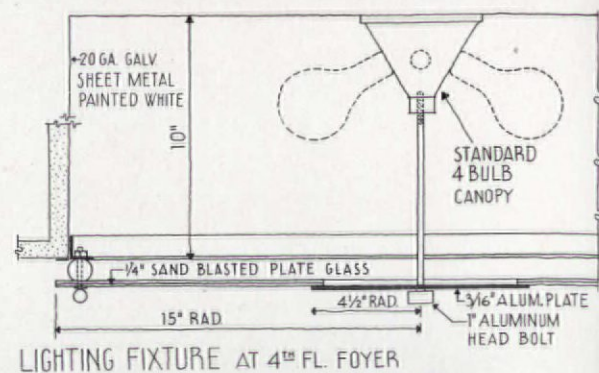
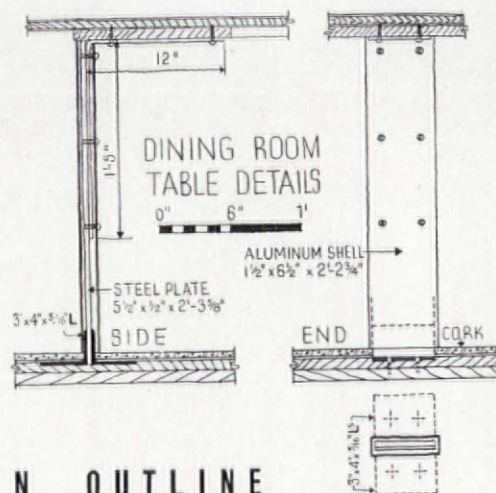
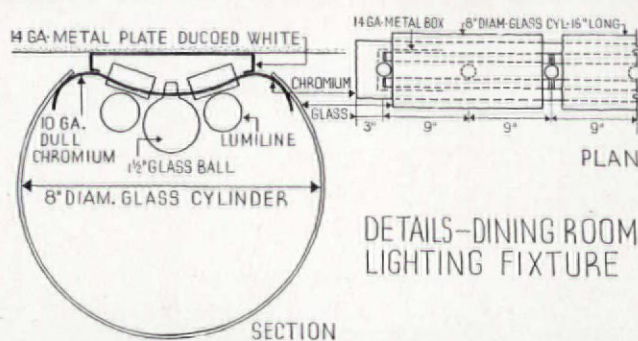
SECOND FLOOR



THIRD FLOOR



BALCONY

LIGHTING FIXTURE
FOR RECEPTION ROOM

FOUNDATION

Footings } 1-2½-5 mix concrete.
Walls }
Piers }
Cellar floor—1-2½-5 mix concrete slab;
1-2 mix finish.

EXTERIOR SURFACE

Brick veneer—glazed brick, 2¼ x 8 in.,
Hanley Co., New York.

ROOF

Sheathing—1½ in. T. and G.
Built-up—fifteen year guarantee, type A,
The Barrett Co.
Leaders—cast iron (inside), Central
Foundry Co., New York.
Flashing—copper, Chase Brass & Copper
Co.

FLOORS

Living room—cork, L. Mundet & Son, New
York.
Sleeping rooms—carpet, A. & M. Karag-
heusian, Inc., New York.
Stair halls—carpet, Clinton Carpet Co.,
New York.
Kitchen, linoleum, Armstrong Cork Pro-
ducts Co.
Bathrooms, 2 x 2 in. tile, Mosaic Tile Co.,
Zanesville, O.

WINDOWS AND DOORS

Sash—steel casement, Hope's Windows,
Inc., Jamestown, N. Y.
Entrance door—Formica, The Formica
Insulation Co.
Frame—aluminum, Aluminum Company of
America.

PORCHES

Tile floor—Ludowici-Celadon Co.,
Chicago, Ill.

GLASS

Thermopane Co., Division of Libbey-
Owens-Ford Glass Co.
Glass brick 5x5x2¾ in., Structural Glass
Corp. and Macbeth-Evans Glass Co.
Glass brick 11¾ x 11¾ x 3¾ in., Corning
Glass Co.

EXTERIOR PAINT

Brick wall—rear
Priming } Dupont Cement Paint with
Finish coat } Old English Oil—E. I. du
Pont de Nemours Co., Inc.
Trim } Priming } Dutch Boy lead and
Sash } Finish coat } oil, Keystone Var-
nish Co.

LATH AND PLASTERING

Lathing
Metal—Ecod lath, Reynolds Metal Corp.,
New York.
Plastering
Neat plaster } U. S. Gypsum Co.
Finishing plaster }

INTERIOR WOODWORK

Floors—living room, dining room, kitchen
and office floor—pine; bedrooms—clear
white oak strip flooring.
Doors—Roddiss Lumber & Veneer Co.,
Marshfield, Wis.
Door bucks—steel, Kalman Steel Corp.,
Bethlehem, Pa.
Paneling } living room—Coco wood
bedroom—Amboyna burl
from Asia, manufactured by
Huller & Co., New York.
Shelving and cabinet—white pine.

INSULATING

Roof } Celotex wool batts, Celo-
Ground floor } tex Co. and Metallized
Ecod lath, Reynolds Corp.,
New York.

INTERIOR PAINTING

Floors—Zinser's shellac, Zinser Shellac Co.
Trim } Reflexalight eggshell enamel,
Doors } Keystone Varnish Co.
Sash—aluminum paste, Evens Bros.
Walls—Keystone washable flat, Keystone
Varnish Co.

ELECTRICAL SYSTEM

Cable—BX., Triangle Manufacturing Co.
Wiring—No. 14 Rubber covered, Triangle
Manufacturing Co.
Switches } Hart & Hegeman.
Outlets }
Intercommunicating telephone system,
Loeffler.

LIGHTING

Direct and indirect
Fixtures—aluminum, manufactured by
the Egli Co., New York, with lumi-
line lamps.
Porch fixtures—Holophane Co., Inc.

PLUMBING

Kitchen
Sink—Monel Metal, International
Nickel Co.
Cabinet—wood.
Stove—gas, American Stove Co.

Refrigerator—Electrolux, Servel Sales,
Inc.

Laundry equipment—two-drawer type,
Judelson Co.

BATHROOMS

Lavatories—Roxbury, Standard Sani-
tary Mfg. Co.

Cabinets—Jenkins Mfg. Co.

Bath tubs } master bath—Adapto
other baths—Pembroke
Neo-Classic

Standard Sanitary Mfg. Co.

Toilets—Devoro, Standard Sanitary
Mfg. Co.

Seats—C. F. Church Mfg. Co.

Shower heads—Speakman Co.

Shower curtains—oil silk.

Wall finish—paint.

PIPES

Soil—cast iron, Central Foundry Co.

Supply—brass, Chase Brass & Copper
Co.

Vents—galvanized iron, Republic Steel
Corp.

HEATING AND AIR CONDITIONING

Year round General Electric Air Con-
ditioning, Schwerin Air Conditioning
Corp., New York.

Boiler—oil fired

Hot water heater } General Electric.

Ducts—galvanized sheet iron, Weirton
Steel Co.

Thermostat and regulators, General
Electric.

Grilles, Tuttle & Bailey Mfg. Co.

FIREPLACES

Facings—Travertine.

Hearths—slate.

Mantels } bedroom—white Formica.
living room—marble.

Damper—H. A. Covert Co.

HARDWARE

Interior—Aluminum Co. of America, Sar-
gent & Co. and Soss Mfg. Co.

Exterior—Sargent & Co.

SPECIAL EQUIPMENT

Radio—built-in Capehart, 21 tubes, 30
record-changing phonograph attach-
ment. This unit is built in below one
of the bookcases.

LABORATORY FOR THE CHICAGO VITREOUS ENAMEL PRODUCTS CO.

CICERO, ILL.

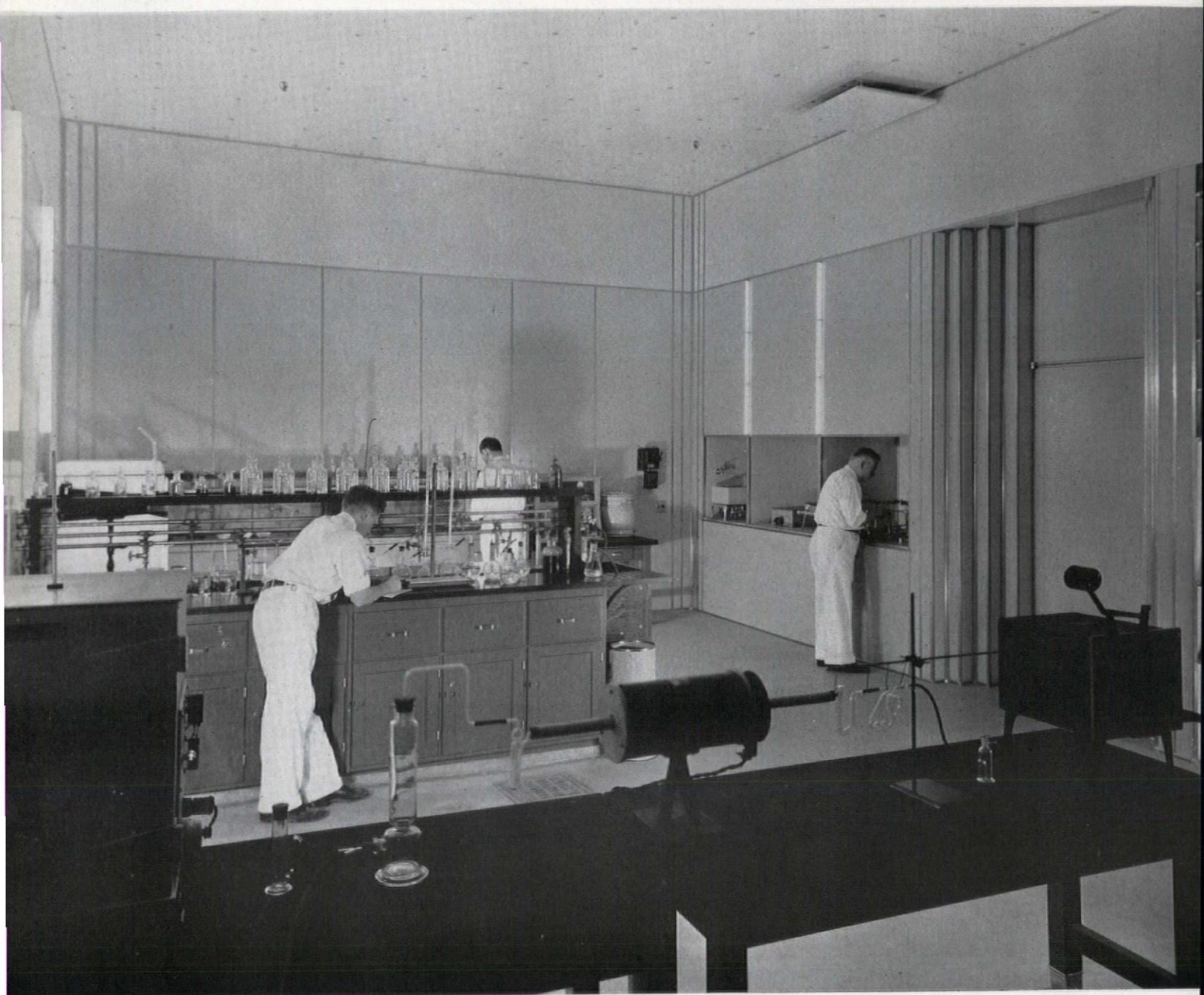
R. HAROLD ZOOK, CONSULTING ARCHITECT



Hedrich-Blessing Photos

DIRECTOR'S ROOM

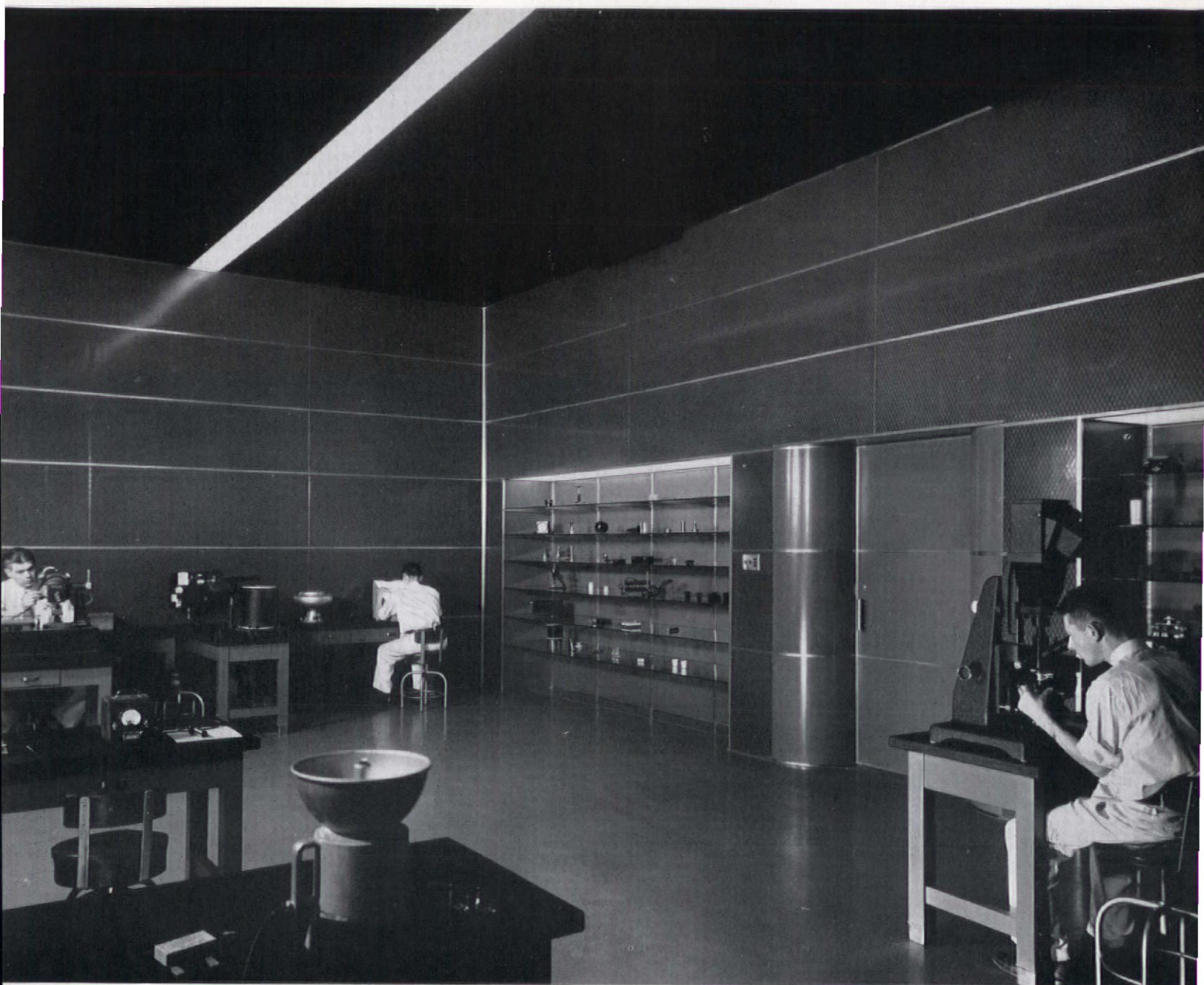
Two reasons dictated the selection of porcelain enamel for use in this new laboratory. In the first place, its durability, ease of cleaning, and acid-resisting qualities are suitable for such an installation; secondly, it was an excellent opportunity to demonstrate some of the architectural possibilities of the company's product. Porcelain enamel is one of the most uncompromising materials ever developed for architectural use: it resembles nothing but itself, and any attempt to make it look like something else is practically certain to end in failure, a fact that was fortunately recognized by the designers of the laboratory. It can be made in flat sheets or a variety of shapes, but the economical size of these units is inevitably limited, and it will be noted in the illustrations that while the treatment of various rooms differs, it is always based upon the use of panels in one form or another. In the director's room, for example, there is a combination of flat and curved panels, varied in width for decorative effect; here, incidentally, some of the furniture is also made of the same material. The walls and the linoleum floor are of an eggplant color, with a bright green ceiling; accents are pure white. The analytical chemistry laboratory has pastel green walls, with an ivory strip 3 ft. wide at the top. The physical instrument room, designed for use as a dark room, has walls of burgundy red, with the only general illumination furnished by a light trough in the ceiling which runs the entire length of the room. A pattern was obtained in the red panels by stenciling through a matt panel to a gloss enamel of the same color, a treatment consistent with the nature of the material, and one which produces a pleasantly rich effect. Three photographs of the old laboratory



ANALYTICAL CHEMISTRY LABORATORY

THE OLD LABORATORIES—PHYSICAL TESTING, ANALYTICAL CHEMISTRY, COLOR MATCHING

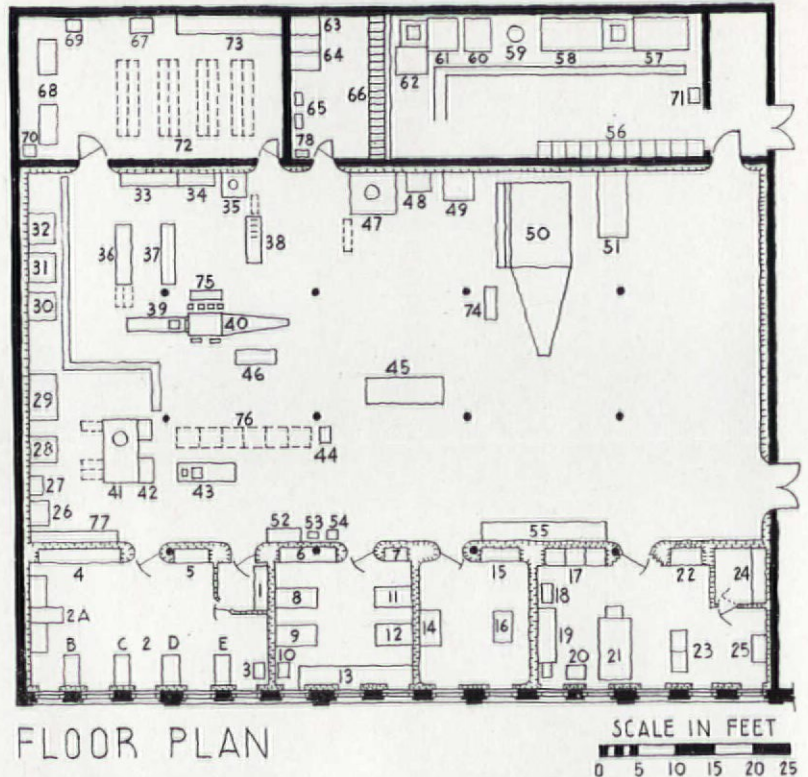




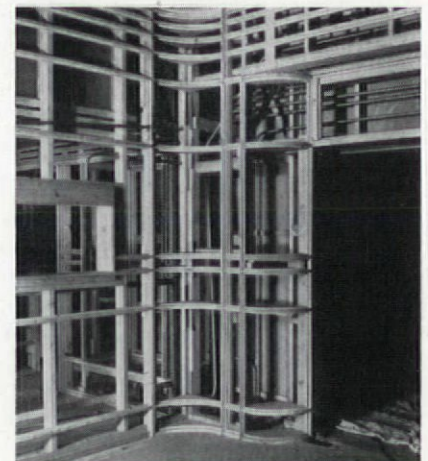
DARK ROOM

have been included to show the vastly improved appearance of the new rooms, and while the efficiency of a laboratory may conceivably be unrelated to its appearance, the effect on the workers must be considerable. An interesting innovation in lighting is seen in the analytical chemistry laboratory, where lumiline lamps have been incorporated into the general decorative scheme. Most successful, perhaps, is the dark room, where the sleek flowing lines of the panels and the stainless steel strips between them are in perfect harmony with the character of the instruments and furnishings. If ever an interior expressed scientific accuracy and precision, this is it. The laboratory, built as an addition to the existing plant, covers approximately 10,000 sq. ft., including a large main laboratory, 50 by 100 ft., an office for the director, an analytical chemistry laboratory, color and enamel control room, a smelt record room, an experimental smelting department, and a locker and shower room. Its cost, including equipment, was about \$100,000.

PURPOSE OF THE LABORATORY: To provide an efficient place in which to conduct research on porcelain enamels and to perfect methods of their control. Also, as already noted, to demonstrate in the company's own plant the suitability of the material for use in hospitals, dairies, kitchens, baths, stores, etc. One of its most important functions is the checking of raw materials for quality; this is done in the analytical chemistry laboratory. To facilitate the development of new enamels an experimental smelting department has been installed; here trial batches are mixed, transferred to larger smelters if satisfactory, and finally put into production. A physical testing room checks finished samples for reflecting properties, covering power, thermal expansion, density of coating, etc. A color and frit control room checks samples of every smelt made in the company's commercial smelters and facilities are provided for filing tests of all materials. The laboratory is entirely air conditioned.



A CORNER IN THE DIRECTOR'S OFFICE BEFORE AND AFTER APPLICATION OF THE ENAMEL FINISHING SHEETS



EQUIPMENT

- | | | |
|---|--|--|
| 1. Reflectometer table | 23. Combustion equipment table | 50. Laboratory enameling furnace |
| 2. Tables | 24. Weighing bench | 51. Burning tool rack |
| 2-A. Interferometer | 25. Chief chemist's desk | 52. Grinding and polishing table |
| 2-B. Binocular microscope | 26. Graining table | 53. Sink |
| 2-C. Spectrophotometer | 27. Mill for colored graining paste | 54. Drinking fountain |
| 2-D. Photomicrographic equipment | 28. Mill for black graining paste | 55. Cabinet bench |
| 2-E. Thickness testing apparatus | 29. 100 lbs. mill ball mill | 56. Raw material bin |
| 3. Sinks | 30, 31, 32. 25 lbs. mill ball mill | 57, 58. Experimental smelter |
| 4, 5. Instrument accessory case | 33. Unit mill rack (20 mills) | 59. Pot furnace |
| 6. Enamel sample case | 34. Sink | 60, 61, 62. Experimental smelter |
| 7. Bookcase | 35. Spray booth | 63. Shower cabinet |
| 8, 9. Color matching table | 36, 37. Shelves for mills | 64. Toilets |
| 10. Sink | 38. Hot plate dryer table | 65. Wash stands |
| 11. Manager color department desk | 39. Cabinet bench electric furnace | 66. Lockers |
| 12. Manager color department table | 40. Laboratory enameling furnace,
48 x 36 in. | 67. Air compressor |
| 13. Cabinet bench | 41. Spray booth | 68. Fin coils for air conditioning |
| 14. Porcelain top table | 42. Sink | 69, 70. Fan |
| 15. Bookcase | 43. Cabinet bench — furnace and hot plate | 71. Pyrometer control for experimental
smelters |
| 16. Laboratory director's desk | 44. Ro-tap sieving equipment | 72. Storage for smelt samples |
| 17. Exhaust hood | 45. Portable dip tank | 73. Storage for frit, etc. |
| 18. Electrolytic equipment table | 46. Furnace table | 74. Furnace table |
| 19. Chemical bench | 47. Spray booth | 75. Table |
| 20. Electric refrigerator for solutions | 48. Stationary dip tank | 76. Color oxide storage shelves |
| 21. Double chemical bench | 49. Dryer | 77. Bench |
| 22. Chemical storage case | | 78. Hand dryer |

SOCONY-VACUUM EXHIBIT, RCA BUILDING, NEW YORK

HENRY DREYFUSS, DESIGNER

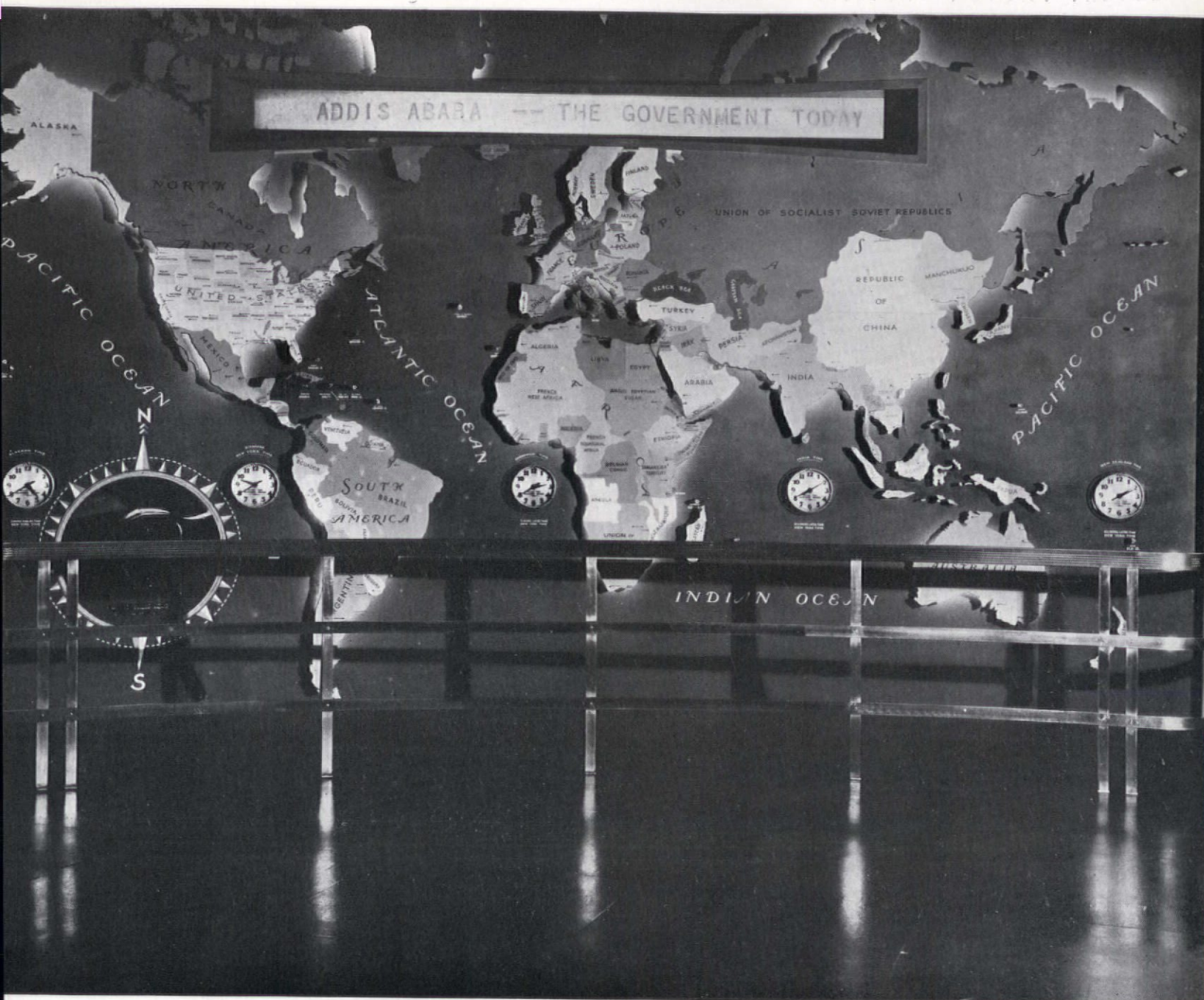
JULIAN G. EVERETT, ARCHITECTURAL ASSISTANT





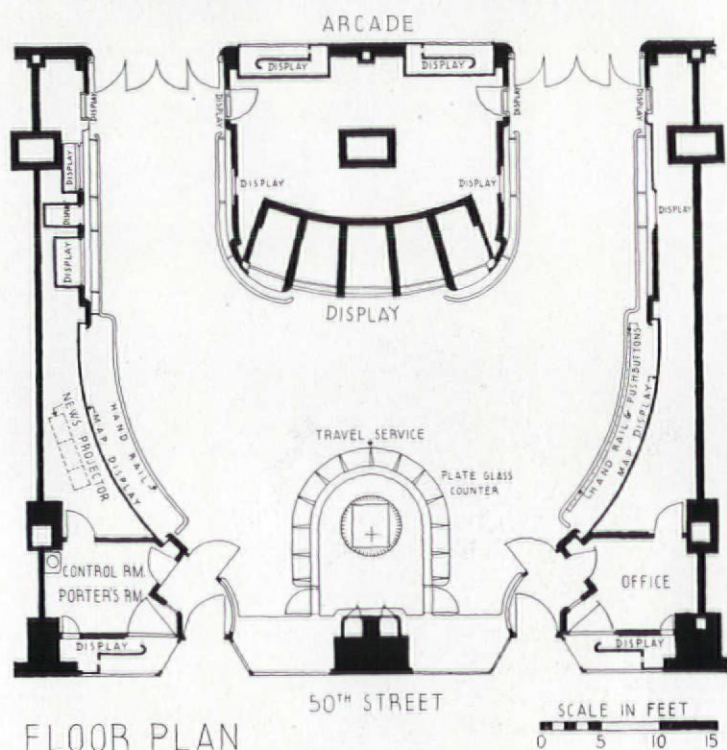
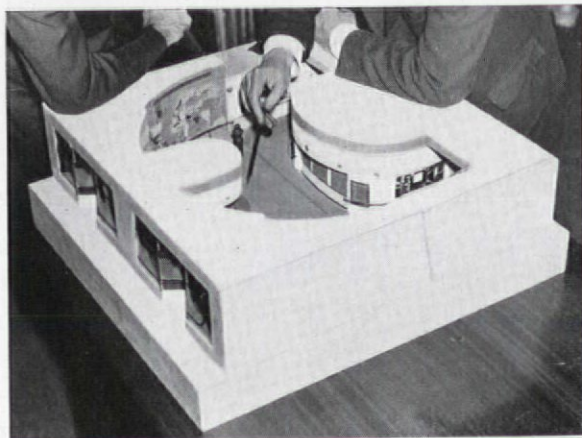
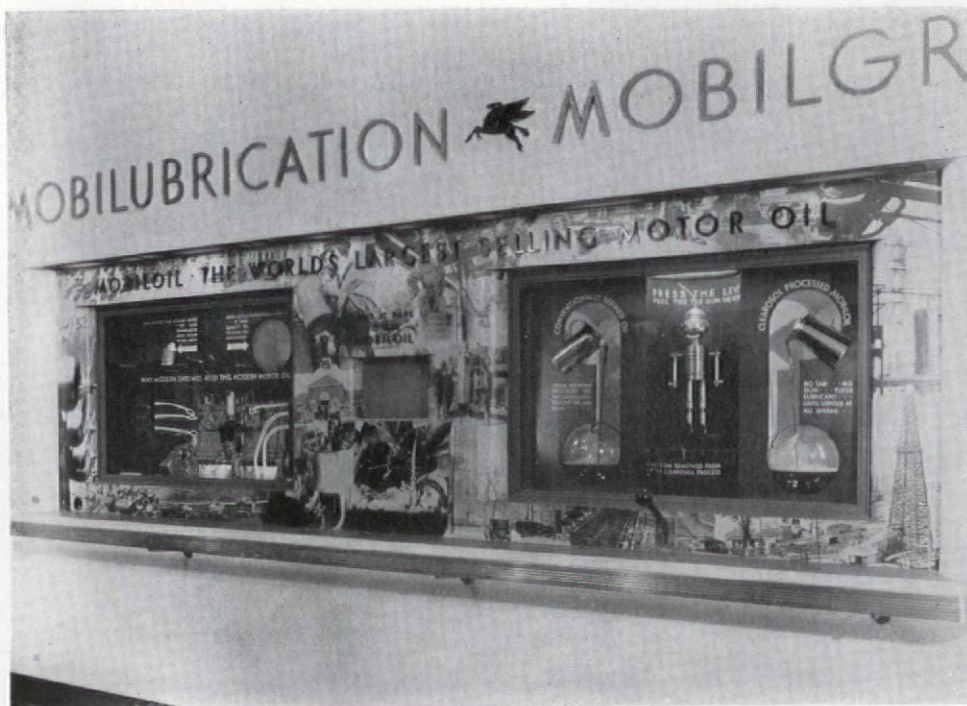
Brie Duryen

A new aspect of architecture is rapidly growing in importance: its use as an integral part of an advertising or merchandising scheme. When a company puts up a building, or simply an interior, whose sole purpose is to call attention to the company's products, the purely formal qualities of the building are necessarily subordinated to its function as an advertisement. This does not mean that the validity of the composition as design is in any way inferior to that of a structure less obviously commercial, but it does mean that it will be different. The Socony-Vacuum exhibit, located in Rockefeller Center's huge RCA Building, occupies a store flanked on one side by the street, on the other by a wide corridor. The object of the exhibit was to attract as many people as possible, and when the hoped-for crowds failed to materialize Mr. Dreyfuss was called in to do something about it. And he did. As many people now visit the exhibit in a day as formerly came in a week. His remedy was simple but efficacious: the square room was replanned as a U, separated from the corridor only by glass doors and partitions, and on the street side a series of moving figures was installed to attract attention. Within the space the story of the product was dramatized; gasoline engines in sealed compartments run under all weather conditions; the



development of petroleum is portrayed by miniature stage settings; boldly projecting relief maps indicate railways and steamer routes, with model ships operated by buttons in the railing; and in the most important position is located a travel bureau where tourists may obtain free maps and information. The color scheme red, white, and blue. Not the least of the factors in the success of the exhibit is the adoption of the modern industrial museum principle which allows the spectator, by means of buttons or levers, to work the displays himself.





CONSTRUCTION OUTLINE

PARTITIONS

Framed of metal studs and furring angles.
Expanded metal lath—Gypsum Co.
Plaster, Newark brand—both brown and white coats.
Walls—too space around the entire perimeter the height of rubber base.

TRIM

Door openings—flush metal bucks, Dahlstrom Metallic Door Co.
All other openings in the plaster work had special channel or angle bucks of furring sections.

FLOOR AND BASE

Blue Everlastic Tile laid in squares, 36 x 36 in.—David E. Kennedy Co.

PAINTING

Walls—white
Ceiling—blue
Doors and trim—wall color

National Lead Co.
Dutchboy White Lead
Devco & Raynolds

HARDWARE

Stock hardware, natural bronze color finish—P. & F. Corbin Co.

ELECTRIC WORK

Remote control switches and outlet boxes—General Electric Co.
Wire—Havirshaw Cable & Wire Corp.
Conduit—Sherarduct, National Electric Products Corp.
Conduit fittings—Thomas N. Betts Co.
Switches and receptacles—The Bryant Electric Co.
Twist lock receptacles—Hubbell Electric Co.

LIGHTING

Neon trough light; concealed lighting and light boxes—Century Lighting & Equipment Co.
Photomural louvers—reflectors of polished corrugated chrome for T-10-25 watt lamps, 9 in. o. c.
Doors with display cabinets—2 ft. polished chrome reflectors for 2-T-10-25 watt lamps.
Neon tube trough lighting—6 ft. metal trough hidden behind plaster with double line type 15 m. m. tubes, blue color. This service required twelve 12,000 volt transformers and two 15,000 volt transformers. The same type and color tubes are installed behind each map—Century Lighting & Equipment Co.

FIXTURES

Ceiling fixtures—partially built-in circular reflector with louver bottom and frosted glass rings using 300 watt Sil-vray bulb. Mogul socket.
Counter fixtures and over door fixtures—totally built-in reflector with frosted glass circular panel flush with plaster.
Show window lighting—rectangular louver flush with plaster with two Pittsburgh T. N. window floods, adjustable reflectors, 200 watt lamp, reflectors above. All fixtures, Ward Hendrickson Co.

LETTERING

Catalin letters, Edgar Weil Co.,
Fastened to walls by Philadelphia, Pa. Du Pont Cement.
Wood letters
Painted lettering, J. A. Fralick Co.

BRONZE WORK—General Bronze Co.
Bronze signs—Milco Bronze Co.

MECHANICAL EXHIBITS—Messmore & Damon

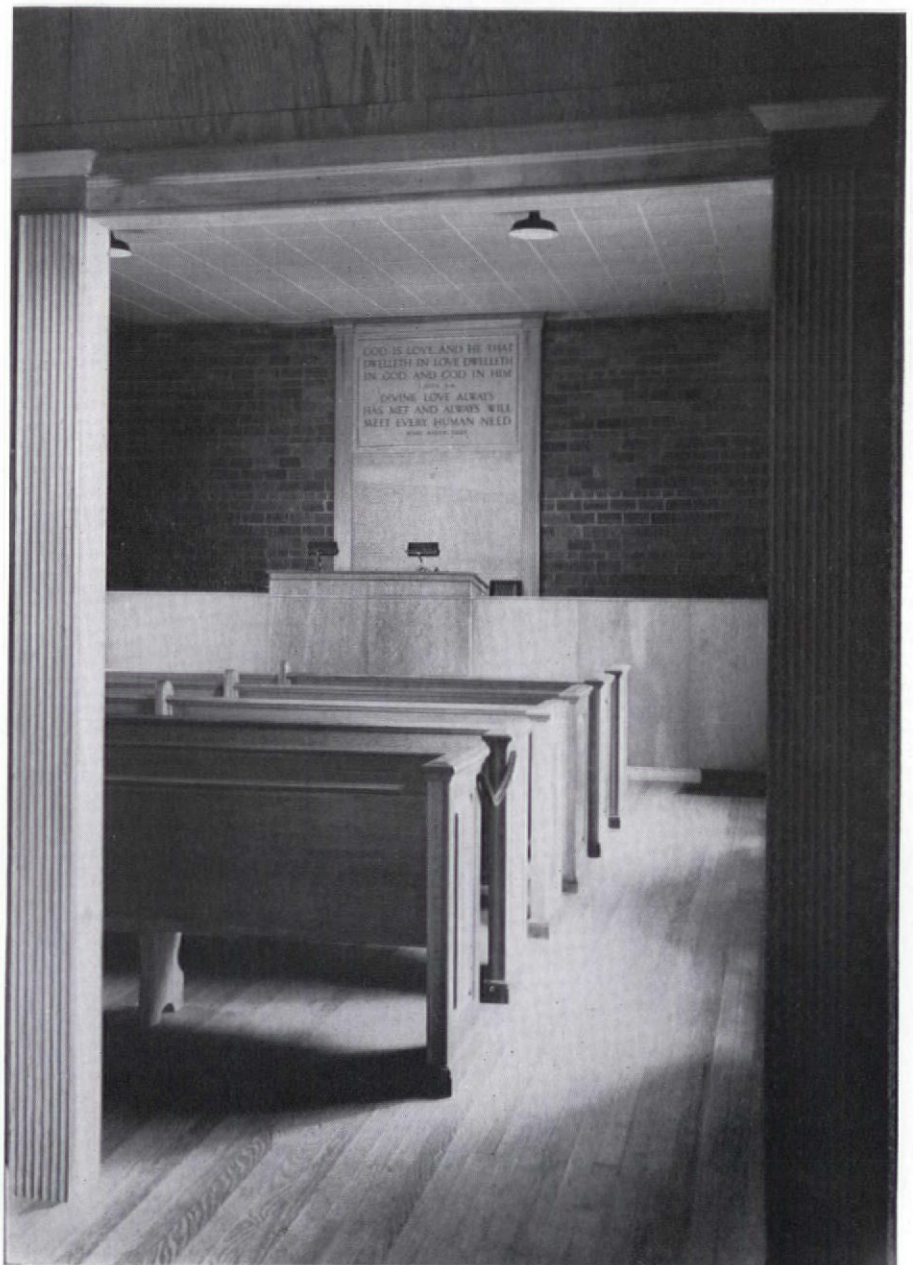
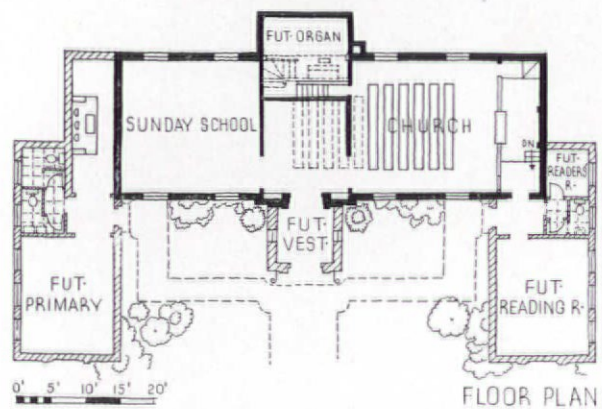
WINDOW MECHANICS—Andres & Perillo
DOLLS—Willi Noell

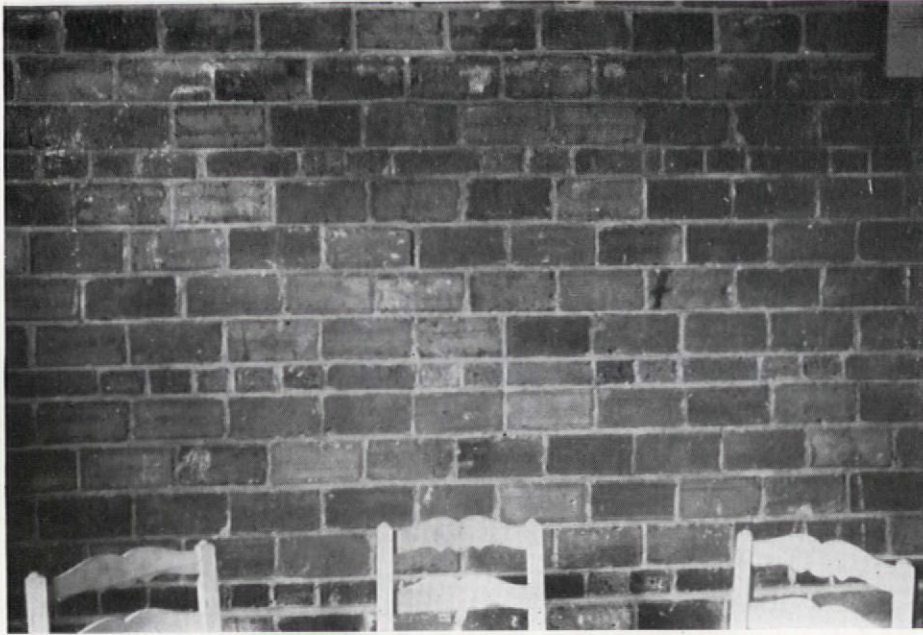
GENERAL CONTRACTOR—O'Brien-Fortin, Inc.

FIRST CHURCH OF CHRIST SCIENTIST, BURLINGTON, N. J.

W. POPE BARNEY, ARCHITECT

ROY W. BANWELL, ASSOCIATE





DETAIL SHOWING BRICKWORK
AND IRREGULAR LAYING-UP

The sight of covered basements, hopefully awaiting the day when funds for the completed church edifice become available, is a familiar one. Erected on the thinnest of shoestrings, the First Church of Christ Scientist is worthy of notice because of the astonishingly small amount of money spent on it (total cost, exclusive of furnishings, \$5,078), and because the first installment has been so designed as to seem a complete unit until such a time when the church may be finished. The extremely limited budget required the closest attention to costs, and several ingenious expedients were adopted by the architect to keep them down. The wall, for example, is 13 in. thick with a 3 in. air space, and was so laid up that it cost about one-fourth less than the ordinary 12 in. solid brick wall. The outer part is two bricks thick and is laid in running bond; the inner wall consists of stretchers laid on edge, bonded by flat-laid headers to the outer wall at every fourth course. In addition to the saving afforded by this procedure, the air space affords a measure of insulation and damp-proofing, making possible the use of the bare brick as a satisfactory interior finish. As another item of saving, no plumbing was installed. The small heating plant had to be installed above ground because when excavations were started it was found that a bed of quicksand underlaid the entire site, making a basement impossible. Upon completion of construction a small sum which remained was used for planting. It is unfortunate that no stronger scheme than the trite pair of evergreens flanking the entrance was used; however, the future planting layout may have rendered it inadvisable. The additions, as indicated by the plan, provide for an extension of the small auditorium and for the incorporation of new elements; these changes will be possible with a minimum of disturbance to the existing structure.

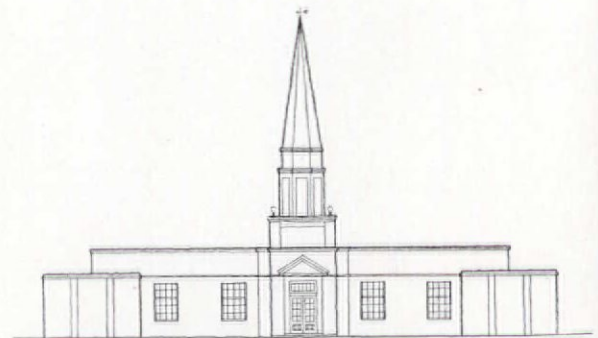
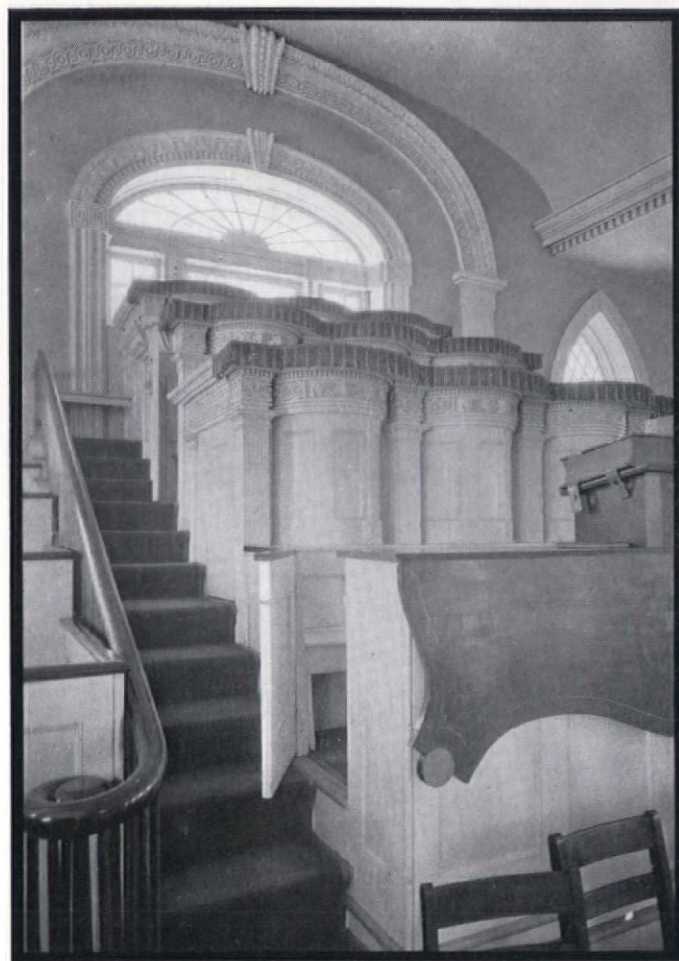


DIAGRAM OF FINAL ELEVATION



PRESENT STATE OF EXTERIOR



INTERIOR, KIRTLAND TEMPLE

Carl Waite Photos

HISTORIC AMERICAN BUILDINGS

HISTORIC AMERICAN BUILDINGS SURVEY

U. S. DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS
BUILDINGS AND RESERVATIONS
BRANCH OF PLANS AND DESIGNS

NUM 6 BER

KIRTLAND TEMPLE

KIRTLAND, OHIO (MORMON)

CHURCH OF THE CONGREGATIONAL SOCIETY

TALLMADGE, OHIO

THE CONGREGATIONAL CHURCH

BRECKSVILLE, OHIO

KIRTLAND TEMPLE (MORMON)

KIRTLAND, LAKE COUNTY, OHIO

The Temple was built 1833-36 by the Church of Jesus Christ of Latter Day Saints. The present owner is the Reorganized Church of Christ of Latter Day Saints, with its general headquarters at Independence, Missouri.

ORGANIZATION OF CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

The following statements are based on the traditions and history of the organization as issued by the Reorganized Church and on histories written by others than members thereof:

Joseph Smith, Jr., of Manchester and Palmyra, New York, was the "First Prophet and Founder" of the Church of Jesus Christ of Latter Day Saints.

An angel called on Smith in 1820, to "help in a work which the Lord designed to accomplish" and told him the gospel, perverted during the Dark Ages, would be restored to its original purity and the priesthood would "again be granted to men chosen by God as his ministers."

The angel also told Smith "a record of the Indian progenitors, containing an account of their origin and a history of God's dealings with them, had been written centuries before, and had been hidden away in the earth, but soon would be revealed to him and power given him to translate it and publish it to the world as another witness for Christ."

The record, written on gold plates, was "given to Joseph Smith, and eleven witnesses gave testimony of having seen and handled" the plates in 1827. It is claimed Smith, a man of meager education and little, if any, linguistic attainment, translated the record and published the translation at Palmyra, New York, in 1830, under the title of the "Book of Mormon."

The "Church of Jesus Christ of Latter Day Saints" was organized by Joseph Smith, Jr., and five others in 1830, and, in its first convention held the same year in Fayette, Seneca County, New York, Smith proclaimed he had been visited by angels; had the full powers and responsibilities of a prophet acquired through direct revelations from God; and was the "Mouthpiece of God."

WORK AT KIRTLAND

Great activity followed the organization of the Church, opposition was waged by the "Clergy," but "like the saints of old, these people" (the converts) "clung tenaciously to their faith, and the work spread." Four missionaries starting westward in October, 1830, to convert the Indians, stopped at or near Kirtland, where:

They met Sidney Rigdon, a minister of the Disciples Church; converted him to their belief; with him established a church of more than 100 members; were joined by Joseph Smith and 50 families from New York State in 1831; Kirtland became the Church's missionary activities center; and, according to Randall and Ryan, authors of a History of Ohio published in 1912, Joseph Smith, Jr., the evangelist, Sidney Rigdon, the intellectual, and Brigham Young, the business and official politician, became the triumvirate which gave early strength and progress to the movement.

BUILDING OF THE TEMPLE

Joseph Smith, on May 6, 1833, proclaimed a revelation from God directing a Temple should be built and said, as "in ancient days, when the Lord designed a tabernacle or temple should be erected, he spoke to his people, and the Scriptures show that he not only set forth the plan of the building, the length thereof and the breadth thereof, but also the furnishings, the materials, and the very colors to be used," the Lord had given him the plans and designs for it. Work was immediately started and prosecuted as follows:

Joseph Smith was general foreman and foreman of the stone quarry, John Bump the master builder, Sidney Rigdon worked as a mason and Brigham Young as a plasterer, the men members worked as directed sparing "only time enough from their sacred task to earn bread," and the women "spun, wove and practiced every economy."

The corner stone was laid July 24, 1833, and the building was dedicated March 27, 1836.

DISSENSION-DISASTER-REORGANIZATION

Dissension immediately arose among the membership at Kirtland. The management of the Church, the organization of an unchartered bank, a proposed real estate project for the laying out of the City of Kirtland in which it was claimed the leaders of the church were financially interested, the indictment and conviction of two of the leaders for illegal operation of the bank and the sudden departure of three men from Kirtland brought disaster. Joseph Smith, Jr., Sidney Rigdon and Brigham Young went to Missouri and then to Illinois where unsuccessful attempts were made to build Temples, where their activities met with church and government opposition, and where Smith and his brother Hyrum were arrested for treason and killed by a mob in the Carthage, Illinois, jail June 27, 1844.

Church activities in Ohio and other States practically stopped. Brigham Young and over 100 members went west and established the Mormon Church in Utah, the property at Kirtland passed out of the control of the organization and the Temple fell into serious disrepair.

Steps were taken in 1873 to reestablish the work at Kirtland and to reacquire the property. Of this William Alexander Linn, in his "The Story of the Mormons" says:

The Temple and two acres of land were deeded by the prophet (Joseph Smith) to William Marks in 1837; in 1841 the Temple and property were redeeded to Joseph Smith as trustee for the church; in 1862 the property (and Temple) was sold by order of the probate court by Smith's administrator and immediately conveyed to one Russell Huntley, who in 1873 conveyed it to the prophet's grandson, Joseph Smith and another representative of the "Reorganized Church of Jesus Christ of Latter Day Saints," and,

The title of the Reorganized Church was sustained in 1880 by Judge L. S. Sherman of the Lake County (Ohio) Court of Common Pleas who held: "The church in Utah has materially and largely departed from the faith, doctrines, laws, ordinances and use of the original Church of Jesus Christ of Latter Day Saints and has incorporated into its system of faith the doctrines of celestial marriage and a plurality of wives and the doctrine of Adam-God Worship contrary to the laws and constitution of the original church and that the Reorganized Church was the true and lawful successor to the original organization."

The property title was cleared, the ownership and name definitely established, the faith, etc., of the original church affirmed, and the doctrine of polygamy legally removed.

DESCRIPTION OF TEMPLE

The Temple is 59 x 79 ft. in size, contains a partly excavated basement, two full stories and an attic. The long axis of the building lies east and west with the front facing east. The exterior walls up to the cornice line are of stone, covered, except for the exposed stone foundation, stone quoins at the corners and the stone frieze of the cornice, with stuccoed plaster which contains bits of broken glass, china, etc., collected, according to tradition, by the women of the church, and used



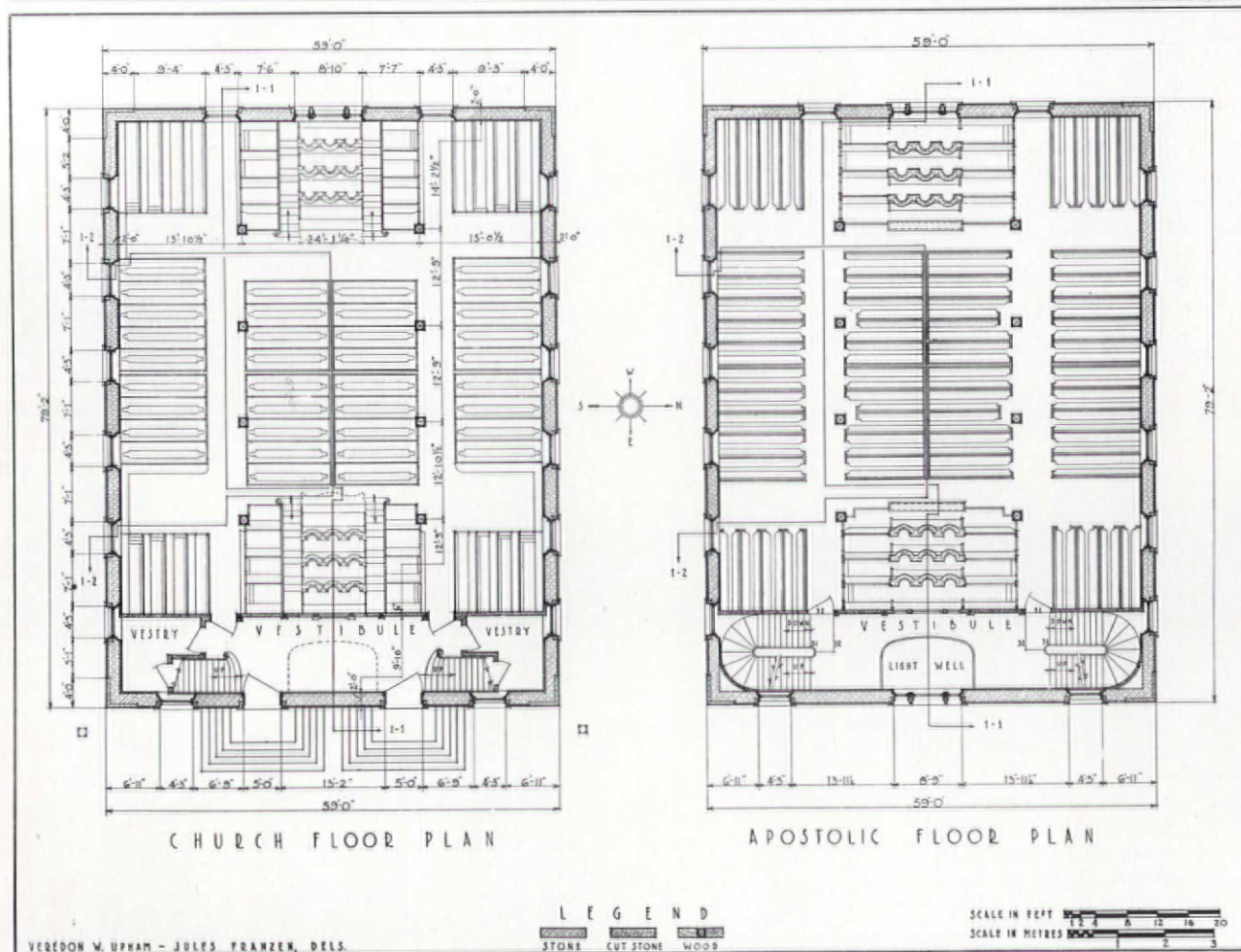
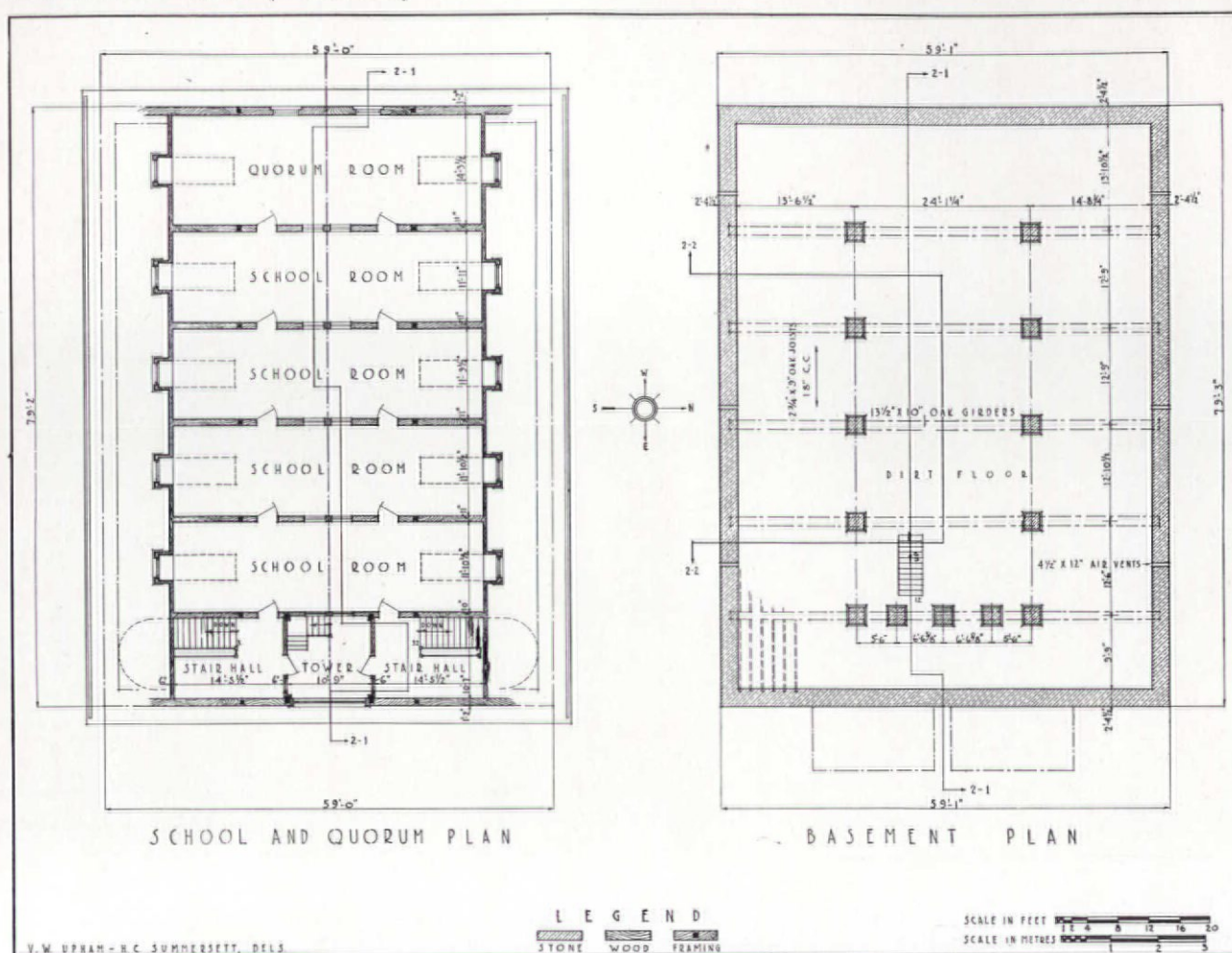
to produce a sparkle on the wall surfaces. The gables, dormers and tower are of frame construction. The original roof was covered with hand-made wood shingles. The exterior trim around the door and window openings is of stone in long lengths neatly and accurately tooled. The interior framing construction is of hewn and sawed material following the usual heavy construction of that period. The interior trim, stairs, pews, pulpits, doors, etc., are of native woods hand molded, carved and painted.

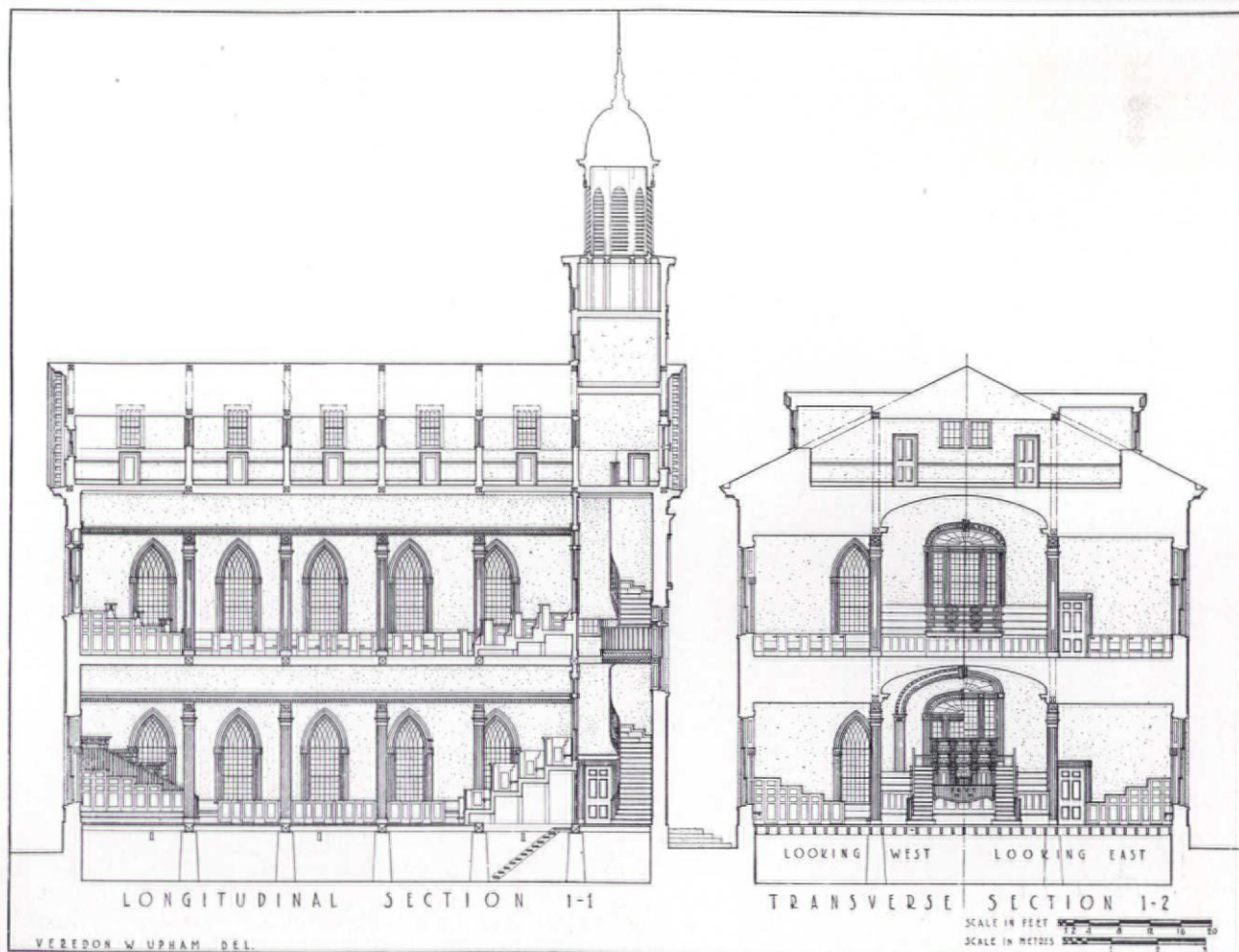
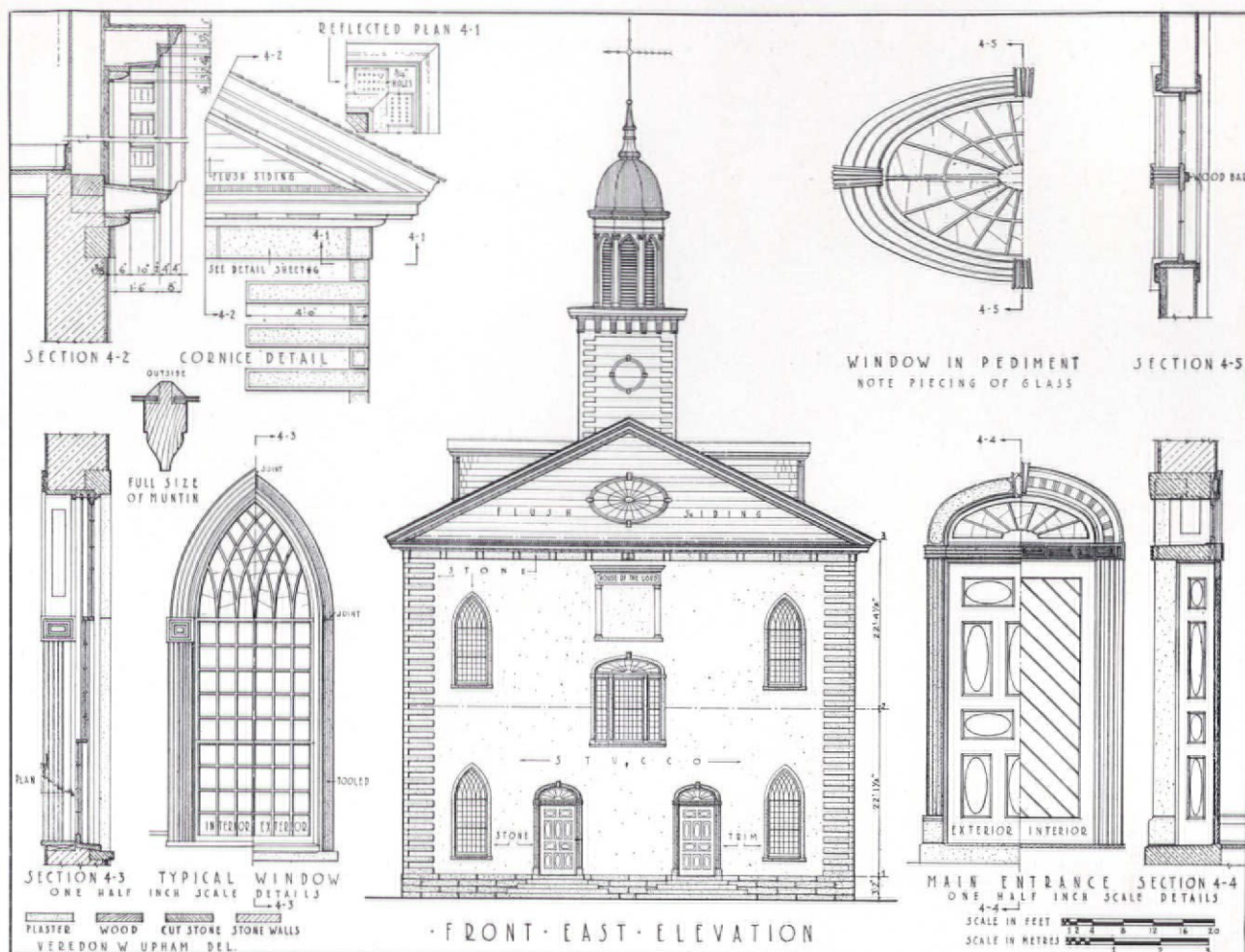
The first story is the apostolic floor, the second the church floor, and the attic the school and quorum floor. The first and second stories each contain two groups of nine pulpits, that at the east end being for the Aaronic order and the opposite one for the Melchisedec order. The pulpits are raised in tiers above the main floors. The seating arrangements in these two stories consist of stalls with doors and movable pews in each stall making possible the use of the entire auditorium from either pulpit. The second story auditorium and the school room story were originally used for instruction purposes in connection with preparation for the ministry, priesthood and missionary work.

The workmanship, moldings, carving, etc., show unusual skill in execution. Many motives are used in the various parts, varying in outline, contour and design, but blended harmoniously. This phase of the work indicates facility in adapting the design to meet varying conditions, as for instance the change in outline of moldings and in design and size of carving on the spiral stairs. It is not probable that all of the workmen engaged on the building were skilled artisans and yet the result is so harmonious as to raise the question if they may not have been inspired as were the builders of the cathedrals of old.

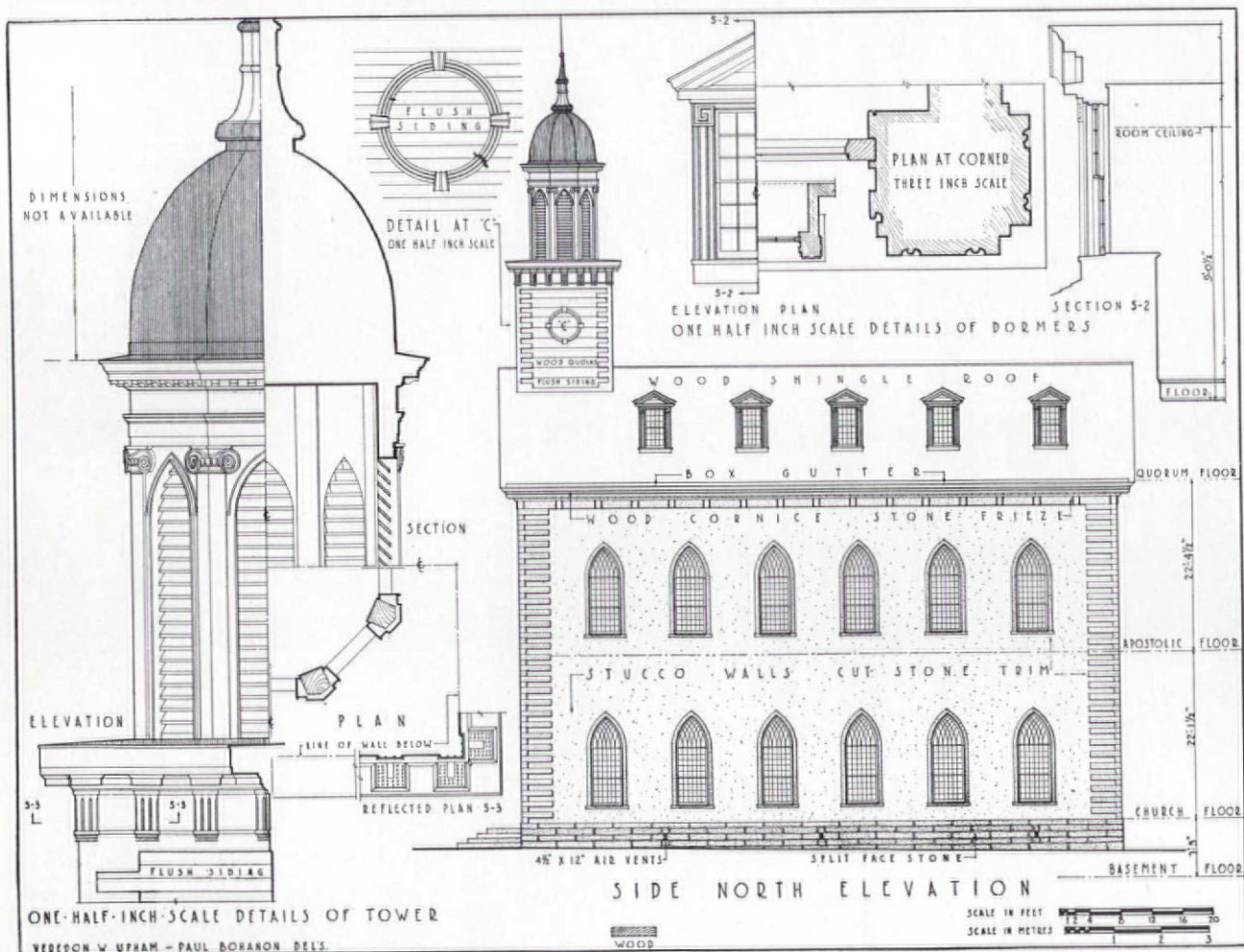
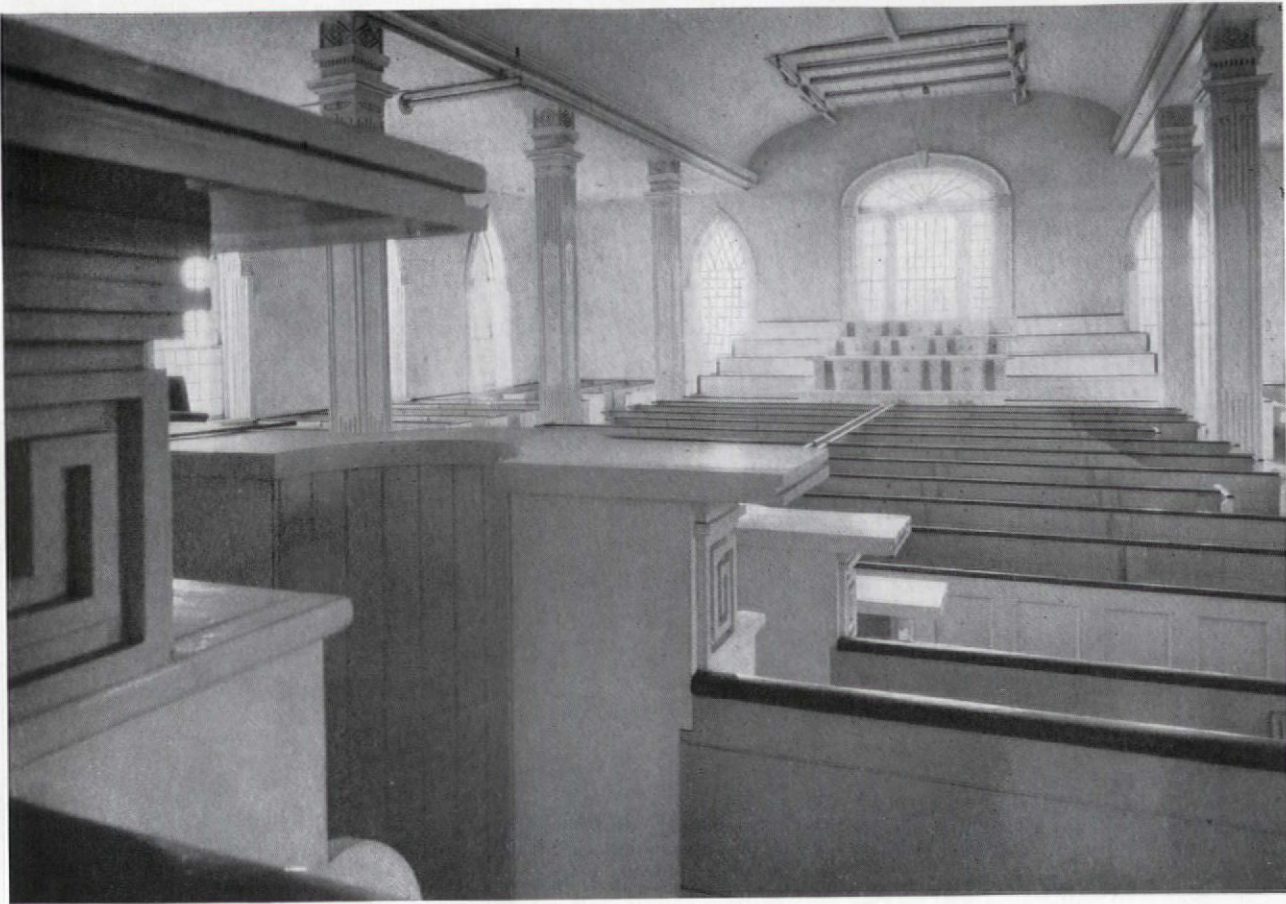


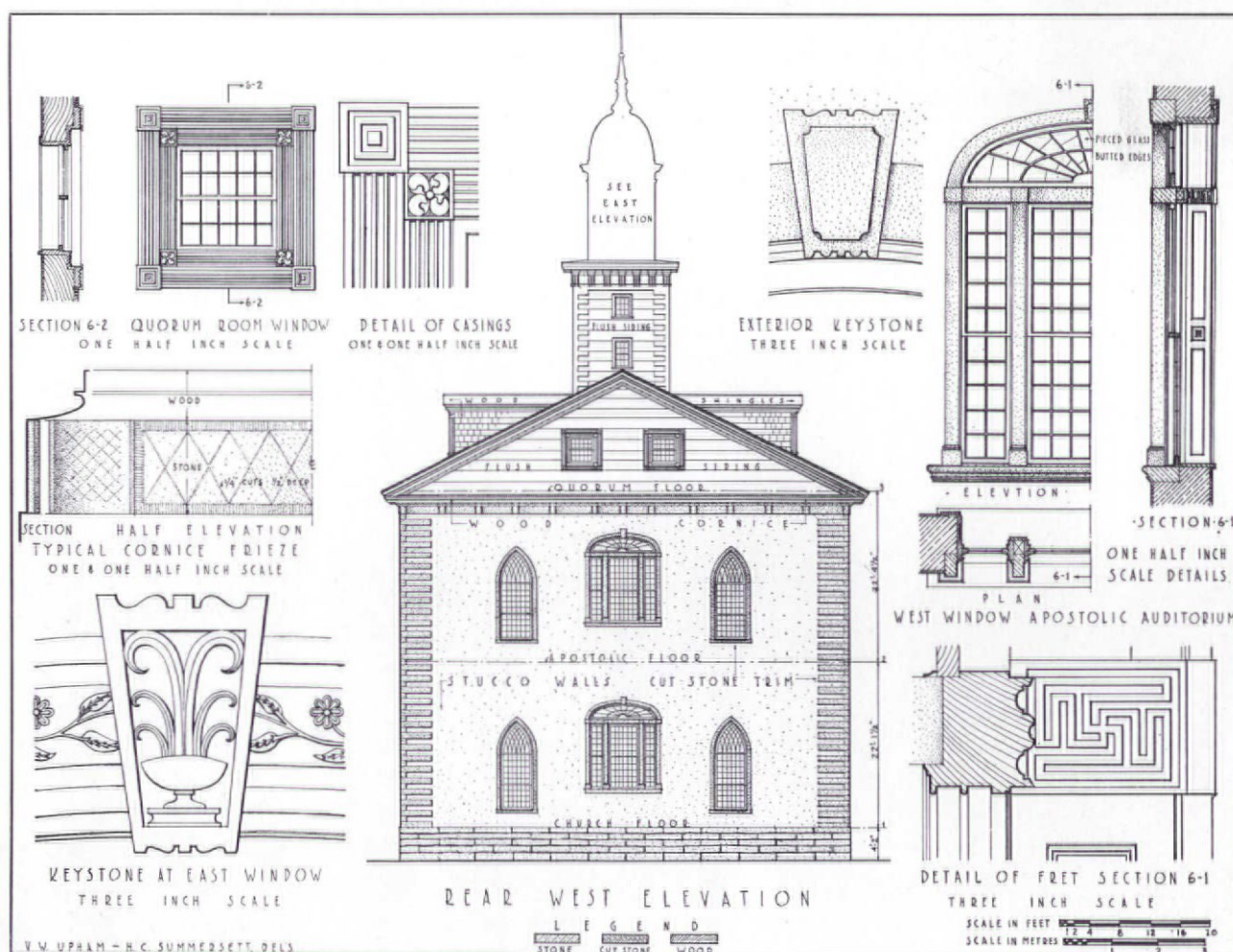
KIRTLAND TEMPLE (MORMON)





KIRTLAND TEMPLE (MORMON)





CHURCH OF THE CONGREGATIONAL SOCIETY

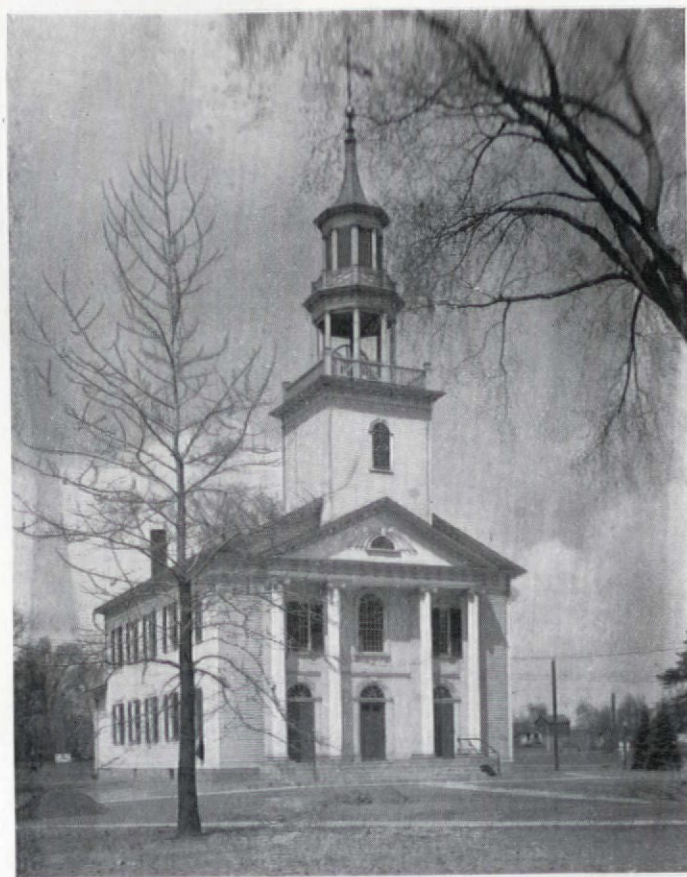
TALLMADGE, SUMMIT COUNTY, OHIO

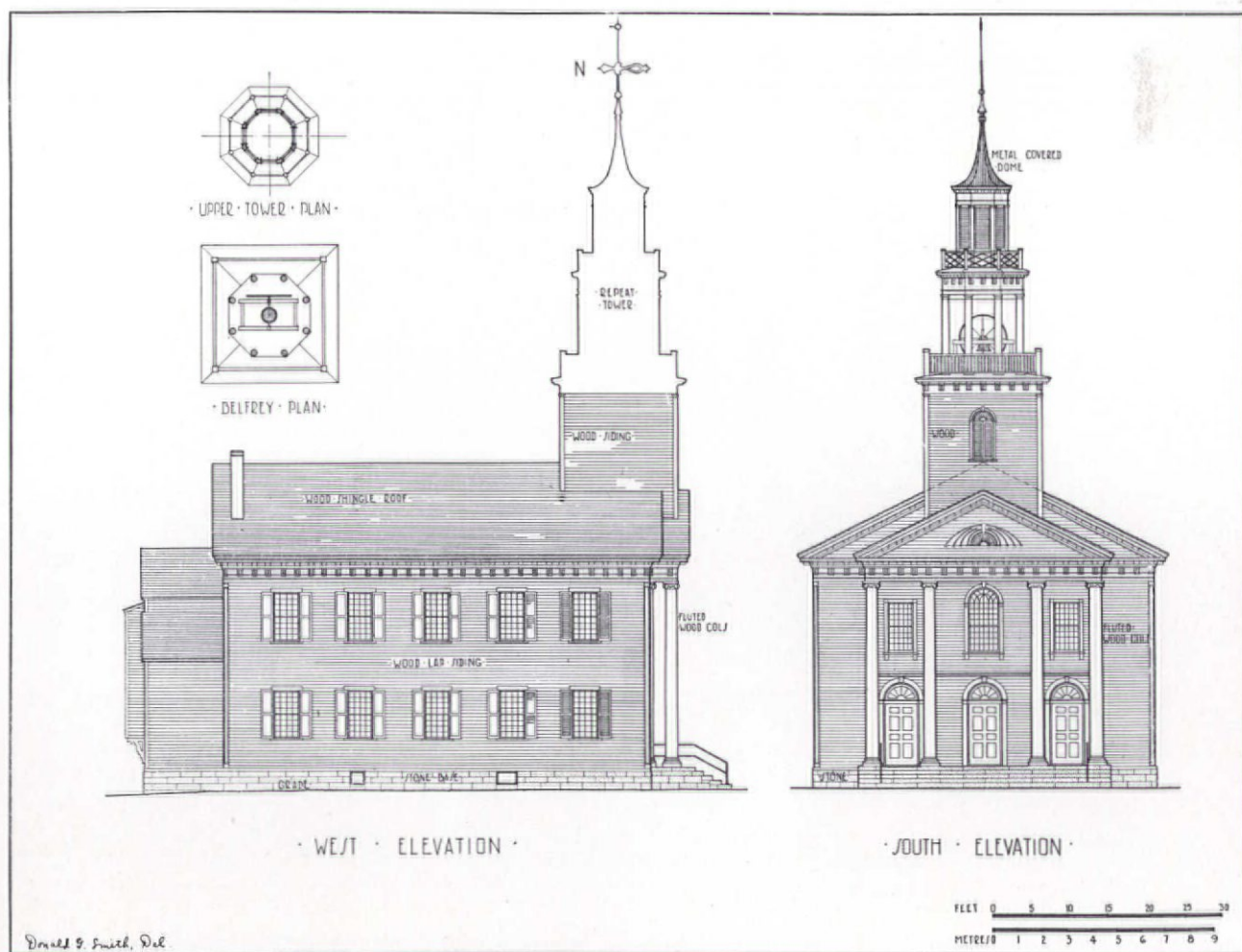
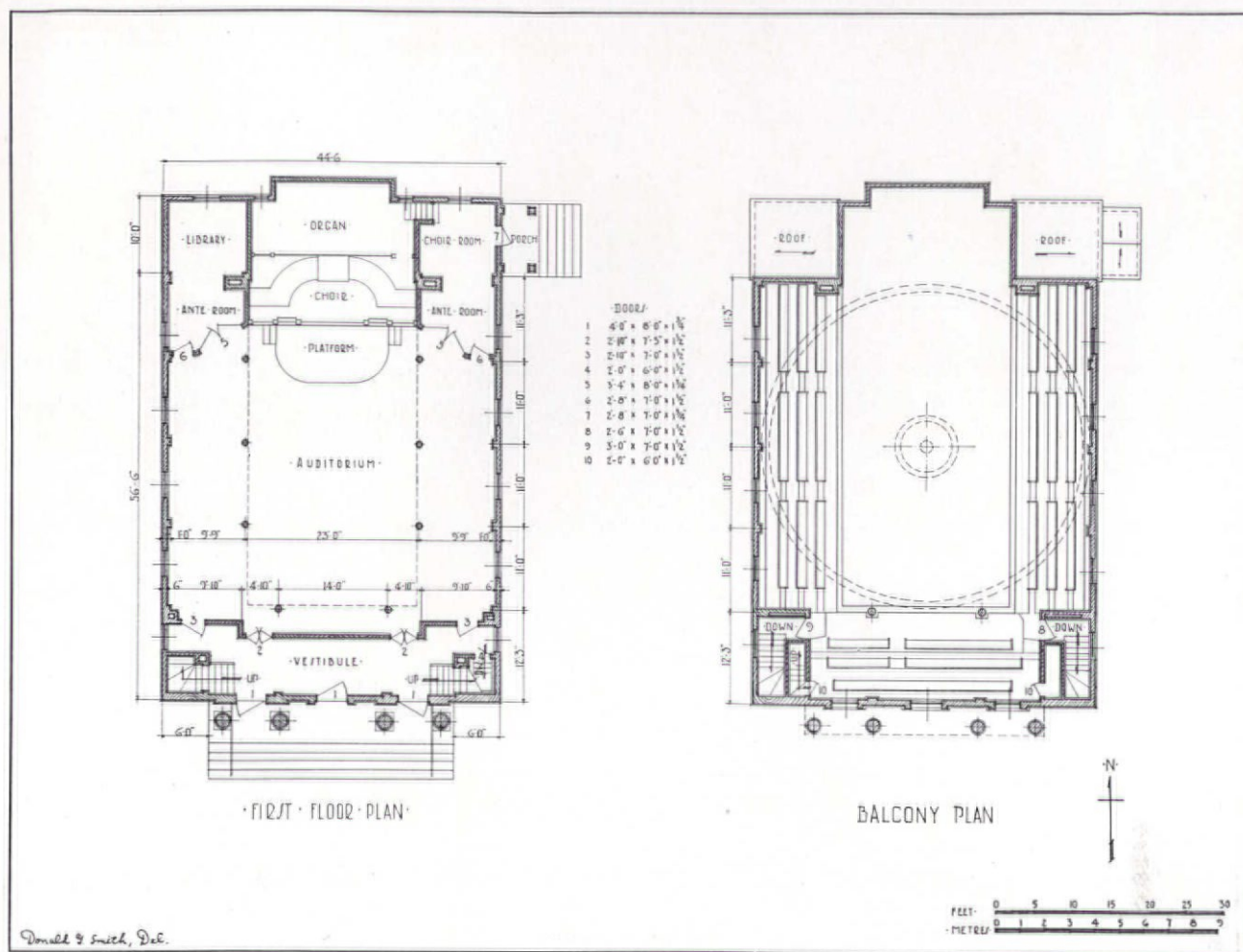
Built 1822-25 by the Congregational Society of Tallmadge. Architect-Contractor—Col. Lemuel Porter. The organization's name continues as it originally was.

The church building is located, with the Town Hall, in the Public Square of the Village which is in the center of Tallmadge Township and from which roads radiate to the township boundary lines in interesting geometric form.

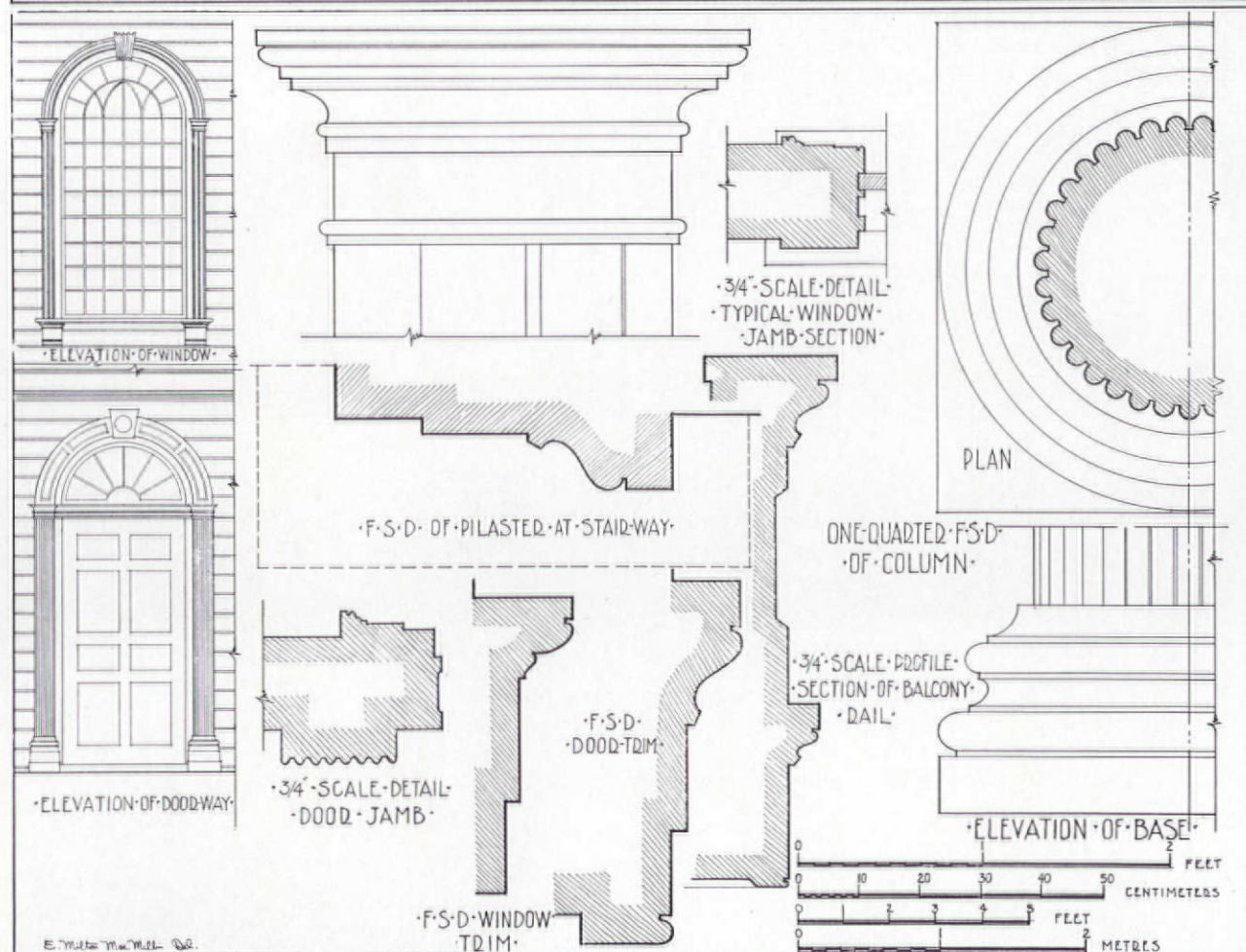
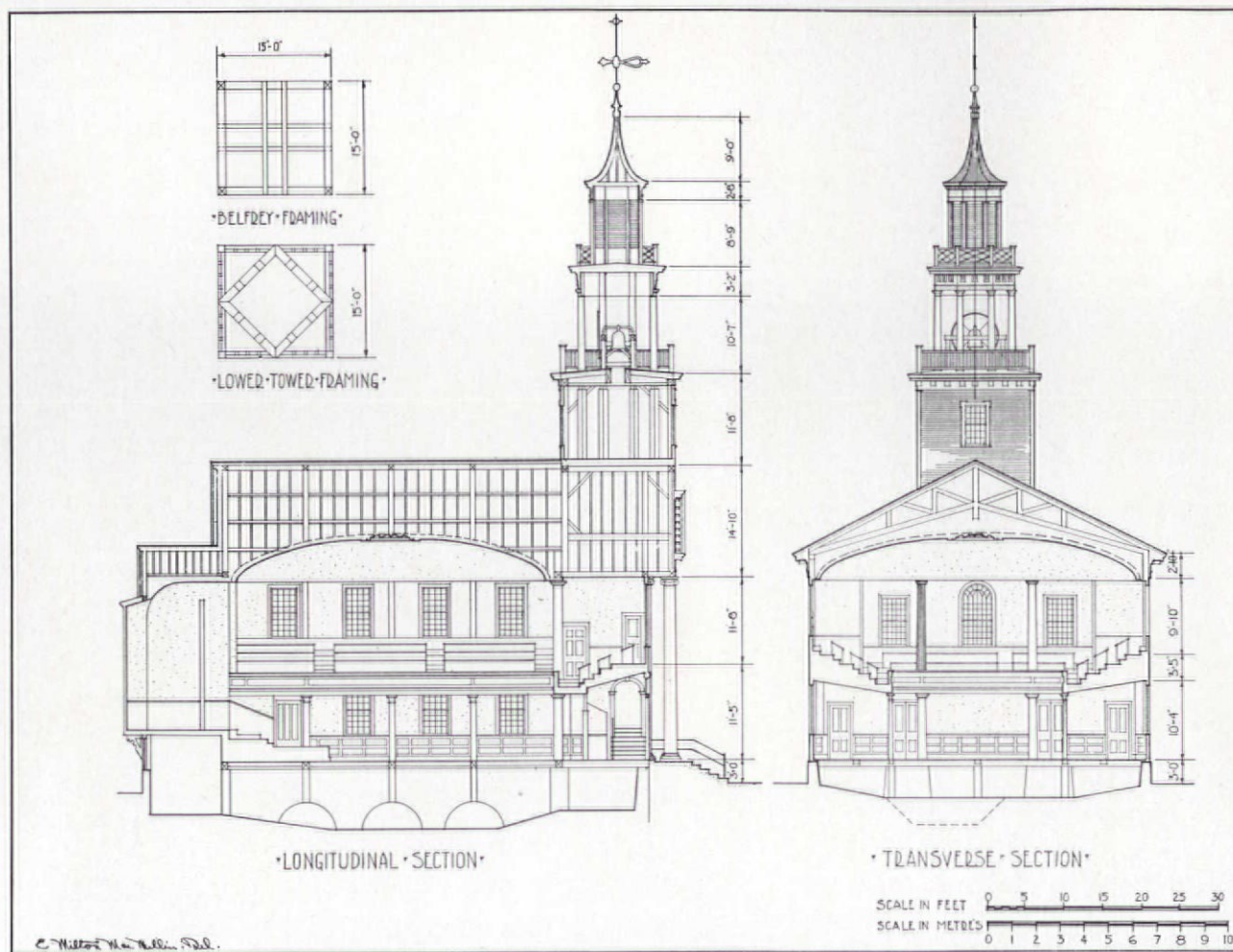
The Tallmadge building is one of the best examples of the Western Reserve Church architecture of that period. It has a stone foundation, heavy hewn timber frame, lapped siding walls and originally had a wood shingle roof. All material for it came from local quarries and the surrounding forests and the members of the congregation formed "hauling bees" for the delivery of it to the site.

The moldings, doors, trim, etc., are hand tooled and made, and the present condition of these and all other parts speaks well for the careful and painstaking workmanship of the artisans.





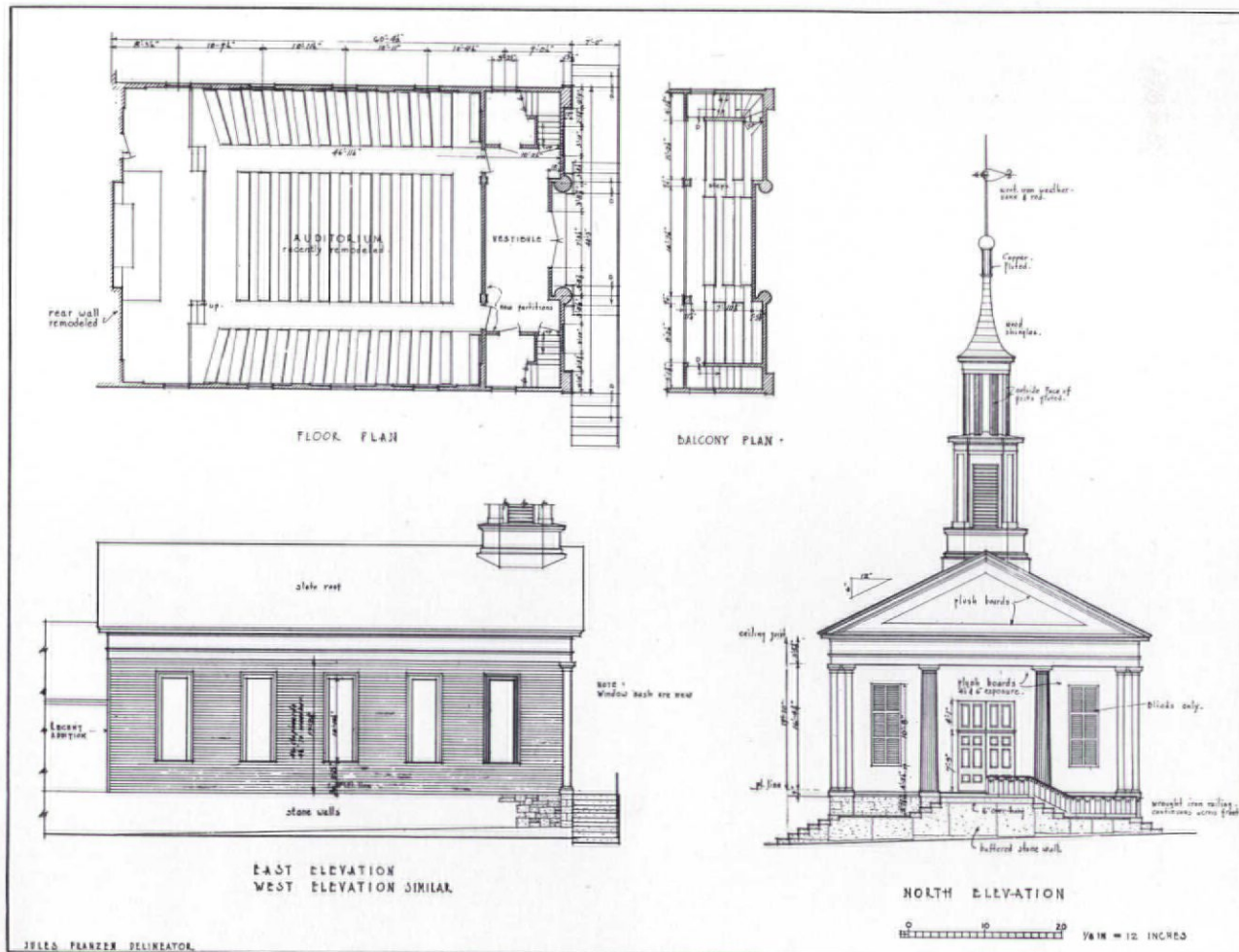
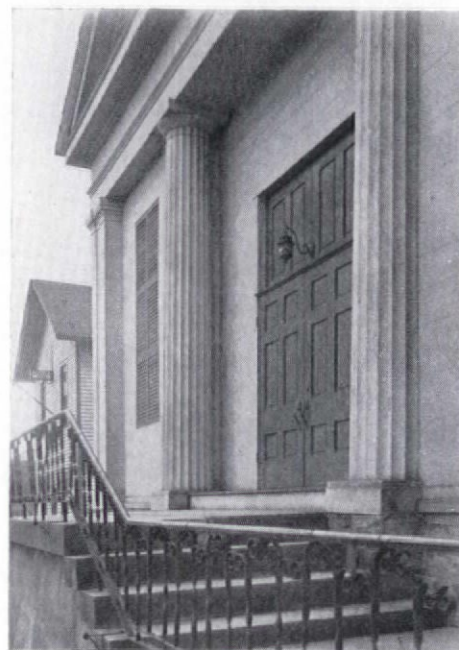
CHURCH OF THE CONGREGATIONAL SOCIETY, TALLMADGE, OHIO



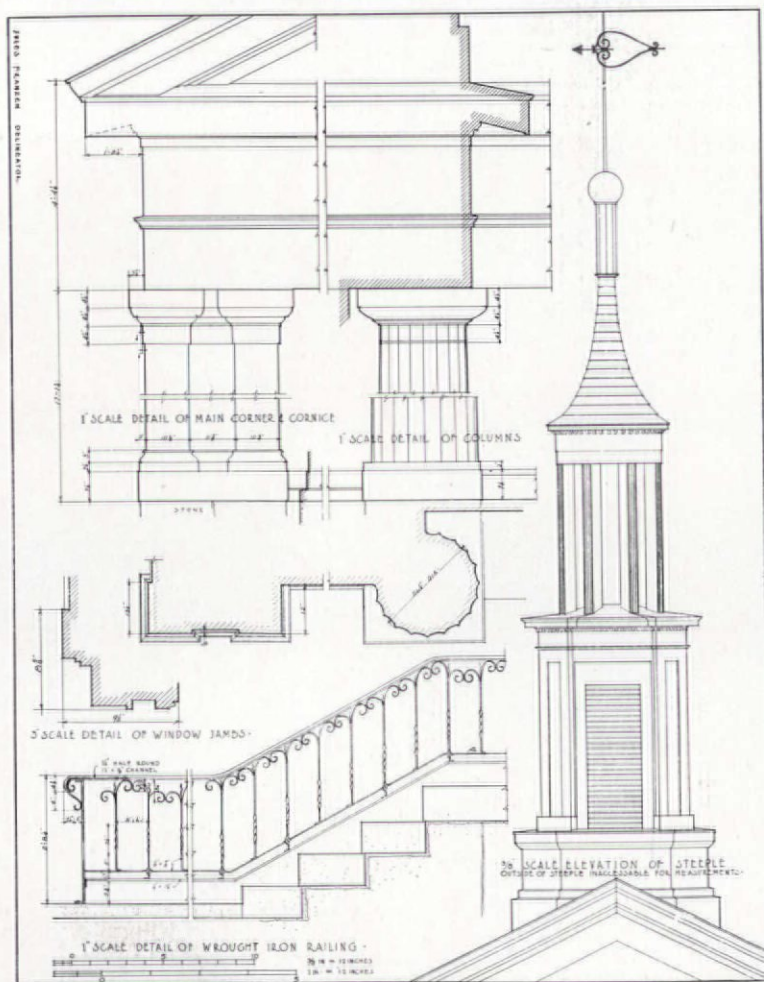
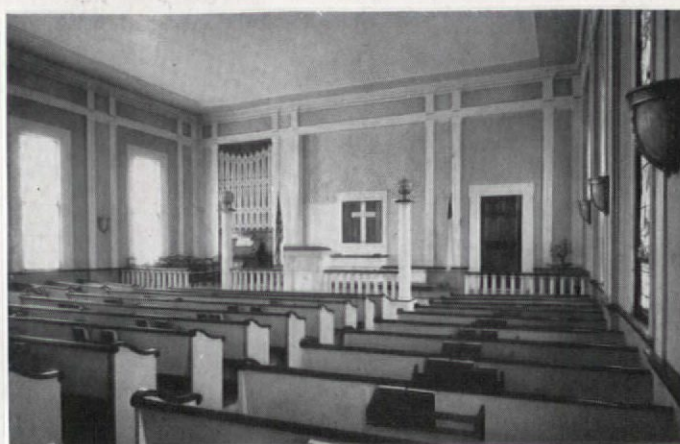
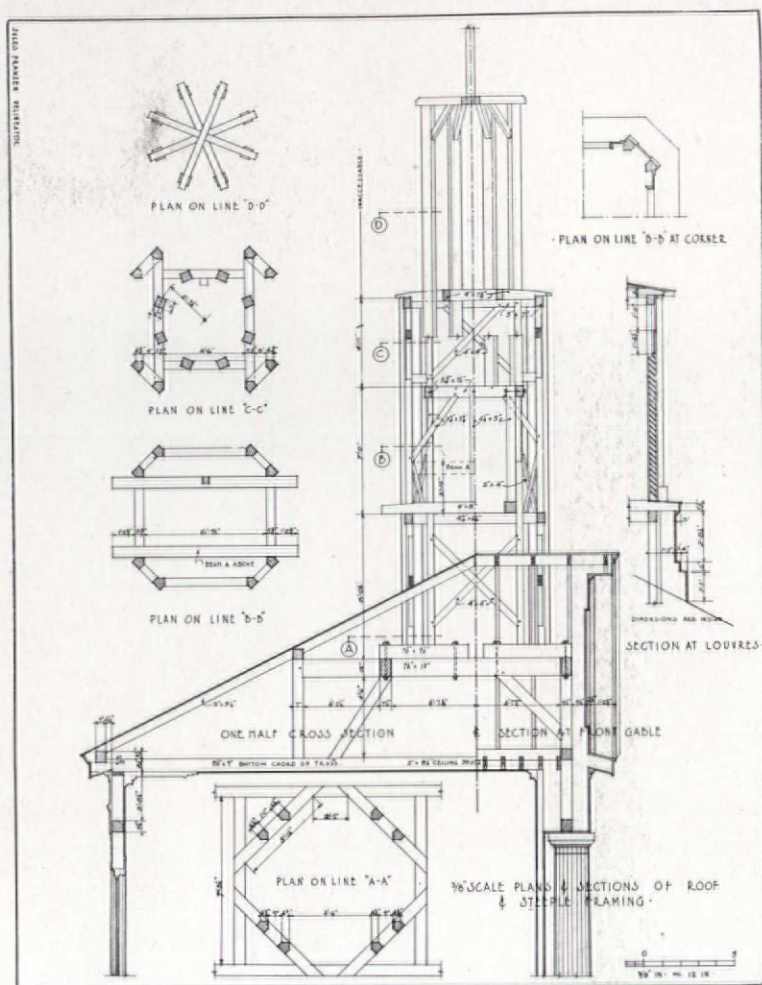
THE CONGREGATIONAL CHURCH



BRECKSVILLE,
CUYAHOGA CO., OHIO



THE CONGREGATIONAL CHURCH, BRECKSVILLE, OHIO



The Congregational Church in Brecksville was organized July 13, 1816, under the "Plan of Union" of the General Assembly of the Presbyterian Church—a plan for the "promoting of unity and harmony among the churches in the new settlements," and by vote was placed under the Grand River Presbytery in 1817.

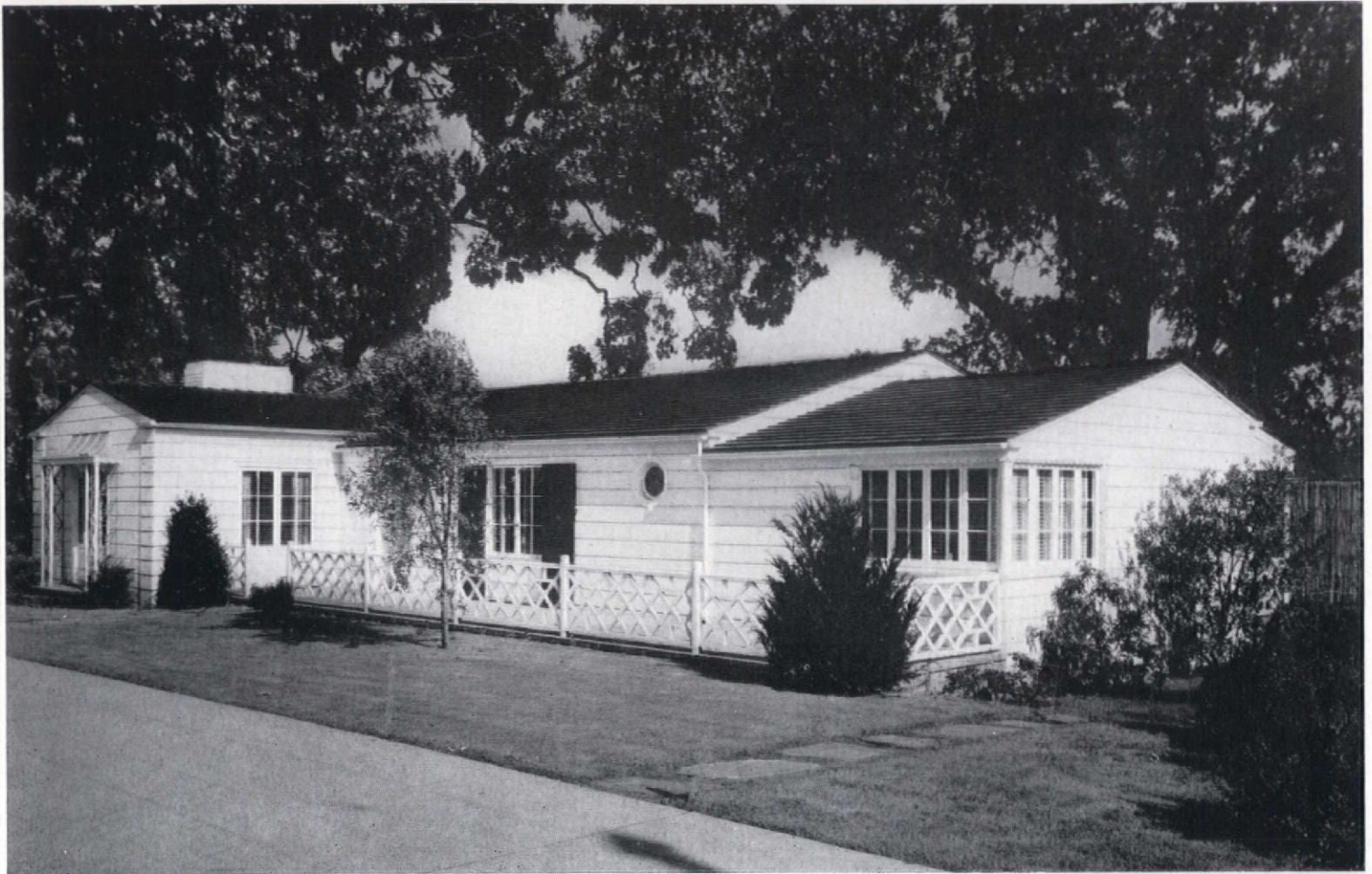
New England Congregationalists outnumbered New York and New Jersey Presbyterians among the settlers of Brecksville, notwithstanding which the organization continued as Presbyterian Church until 1889 when it became a Congregational Church.

The church building was dedicated October 30, 1844 and cost, according to the records of that day, about \$3,000.

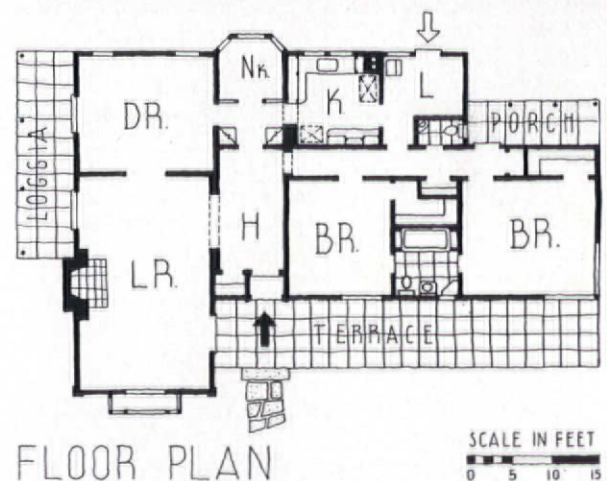
The building is one-story and balcony high, has a tower, and originally contained no basement. It is of local stone foundation and frame super-structure of hewn and sawed framing timbers, lapped siding, split lath, and originally had a shingle roof. The original moldings were all hand-made. Framing and finishing lumber was cut from the surrounding forests.

The design and construction are typical of the pioneer church buildings of that period and show the influence of the old New England meeting houses.

The interior has been redesigned and remodeled within the past few years and an addition built at the rear of the original structure.



The ability of California architects in combining old and new motifs to create a fresh and harmonious design is well known. The simplicity and sophistication of this display home is an effective demonstration of how little variation in form or material is required by the small house for a satisfying exterior. In plan, the location of the bedrooms on the street side seems unfortunate; but since the house was planned for display other factors possibly dictated this arrangement.



CONSTRUCTION OUTLINE

FOUNDATION

Walls } concrete.
Columns or piers }

FRAME CONSTRUCTION

Studding and floor joists—pine.
Sills—redwood.

EXTERIOR SURFACE

Siding— $\frac{1}{2}$ x 10 in. redwood, building paper and sheathing under.

ROOF

Shakes on sheathing—8 in. to weather.
Gutters }
Flashing } galvanized iron,
Down spouts } Armco iron.

DOOR AND WINDOW FRAMES

Sash—casement type, sugar pine $1\frac{1}{4}$ in.
Frames—Oregon pine.
Garage doors—redwood.

GLASS

Single strength, A grade, Libbey-Owens-Ford Glass Co.

EXTERIOR PAINT

Siding } two coats lead and oil.
Sash }

LATH AND PLASTERING

Lathing—wood.
Plastering
Patent plaster—Empire hardwall.
Finishing coat—plaster of paris, lime putty.

INTERIOR WOODWORK

Floors—eastern white oak.
Paneling—dining room, mahogany.
Shelving and cabinets—to detail.

INTERIOR PAINTING

Floors—stained
Trim } four coats paint and
Sash } one coat enamel.
Walls—papered.

WIRING

Cable and switches G. E.
Electrical fixtures—to detail.

PLUMBING

Kitchen
Sink—Crane Co.
Stove—gas
Refrigerator—Frigidaire.
Bathroom
Fixtures } Crane Co.
Bath tubs—recessed }
Tile—American Encaustic Tile Co.
Pipes—galvanized copper bearing steel.

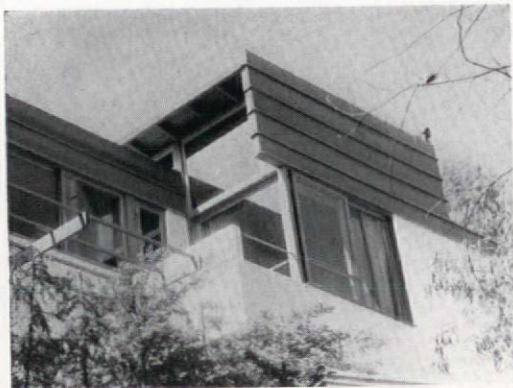
HEATING

Hot air, gravity, California Furnace Co.

108. HOUSE FOR J. DeKEYSER, HOLLYWOOD, CALIF.



Woodcock Photos



The problem here was to provide a residence for a small family which should include quarters for an additional revenue producing apartment. The owner's living quarters are located on the top floor. Because of its snug location, it is possible to see only a small section of the house at one time. This permits the use of different materials on each of its four sides, which fact contributed to the low cost. All construction below the first floor is of concrete, walls are of wood frame covered with stucco. In order to reduce the cost, stucco was carried up only to the second story window sills. The back walls and portion above the windows were covered with composition roofing applied in horizontal strips. Cost, \$2 per sq. ft. of floor area, exclusive of architect's fee.

CONSTRUCTION OUTLINE

FOUNDATION

Walls } reinforced concrete.
Columns }

FRAME CONSTRUCTION

Studding and rafters—Oregon pine.
Sills—Wolmanized lumber.
Floor joists—reinforced concrete.

EXTERIOR SURFACE

Stucco—lower story cement stucco; upper story slate surfaced composition roofing.

ROOF

Prepared roofing—slate surfaced.

DOOR AND WINDOW FRAMES

Sash—wood, horizontally sliding.
Doors—flush panel.

PORCHES

Matched pine—2 x 6 in. T. & G.

EXTERIOR PAINT

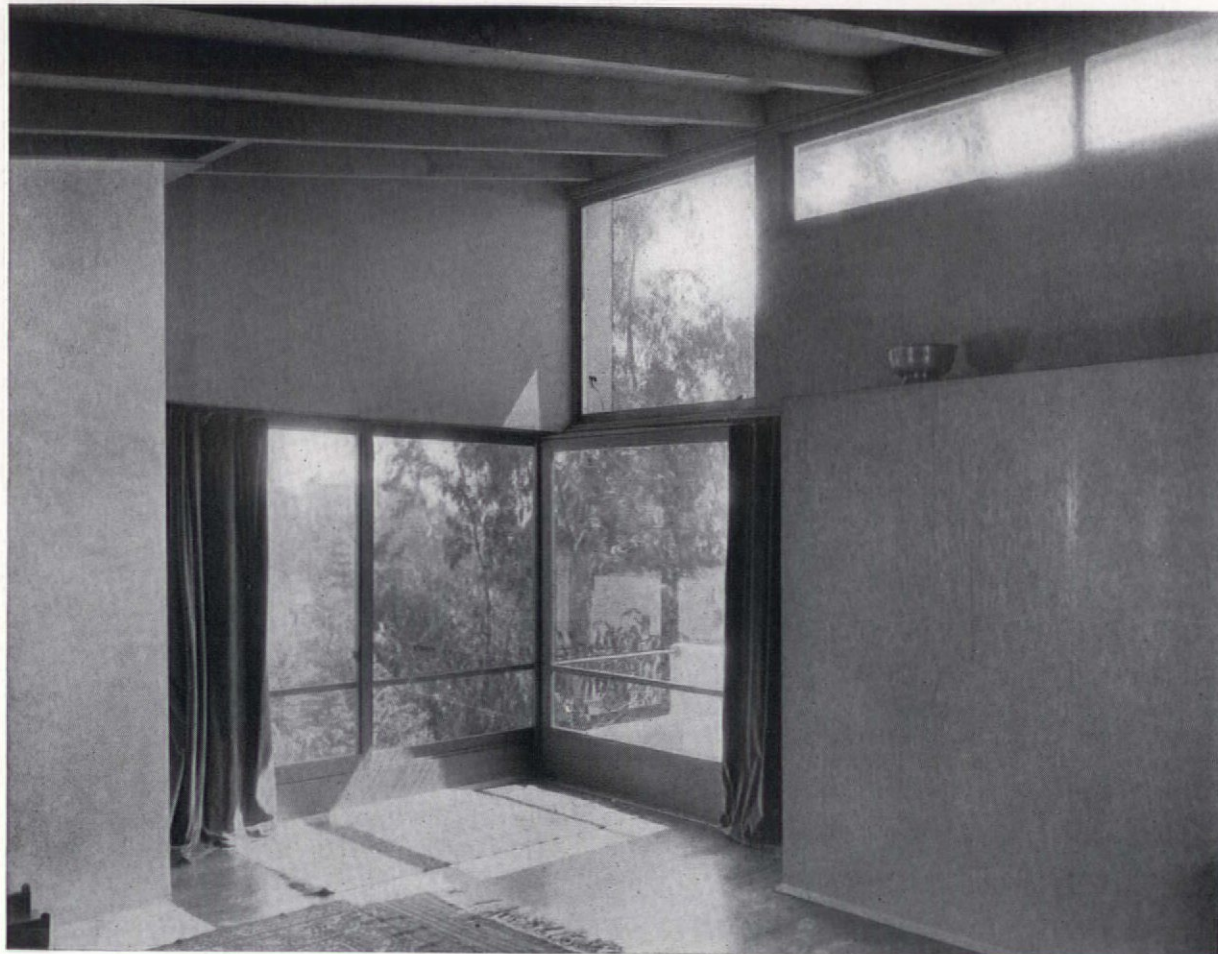
Trim } priming—oil stain.
Sash } finish coat—paint.

LATH AND PLASTERING

Lathing
Metal—under surface of projections
Wire—exterior walls (stucco).
Wood—interior walls.
Plastering—three coats.

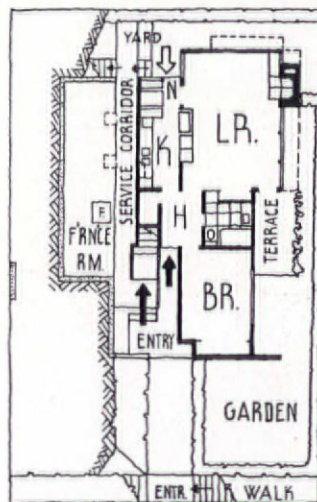
INTERIOR WOODWORK

Floors—hardwood.
Walls—living room, plywood.



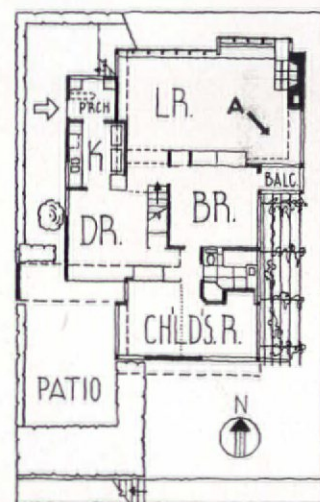
VIEW A

PLAN—By employing a common central entrance and service corridor both floors are insured a certain amount of privacy. Separate, unrelated gardens further increase this sense of independence. The owner's quarters provide for two bedrooms, one of which may be subdivided into two smaller rooms at a later date.



FIRST FLOOR

SCALE IN FT.
0 4 8 12 16



SECOND FLOOR

CONSTRUCTION OUTLINE

INSULATING

None
Weatherstripping.

INTERIOR PAINTING

Floors
Trim
Doors
Sash
Walls—oil paint.

LIGHTING

Electrical fixtures—indirect, recessed in walls and ceiling.

PLUMBING

Kitchen
Sink—rubber drainboard.
Cabinet—wood.
Bathroom
Fixtures—porcelain enameled iron.
Cabinets—wood.
Bath tubs—built-in.
Tile—shower floor.

PIPES

Wrought iron.

HEATING

Unit gas heaters.
Hot water heater—gas.

CHIMNEY

Fireplaces
Facings—common brick, first floor; plaster, second floor.
Hearths—fire brick.
Damper—adjustable.

HARDWARE

Interior—nickel plated.

SCREENS

Integral with sliding sash.

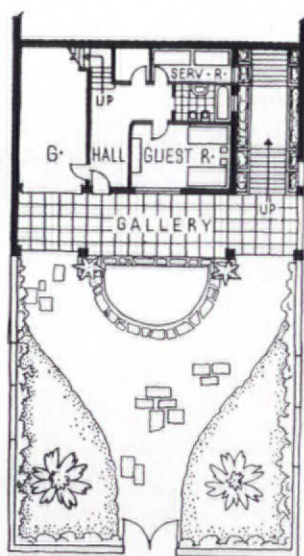
109. HOUSE AT PUNTA GORDA, MONTEVIDEO, URUGUAY



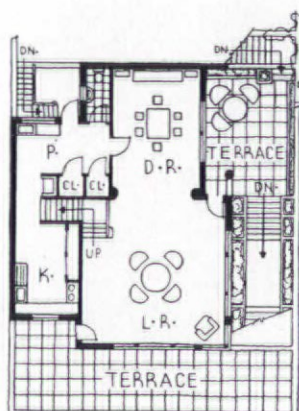
Photos, Portland Cement



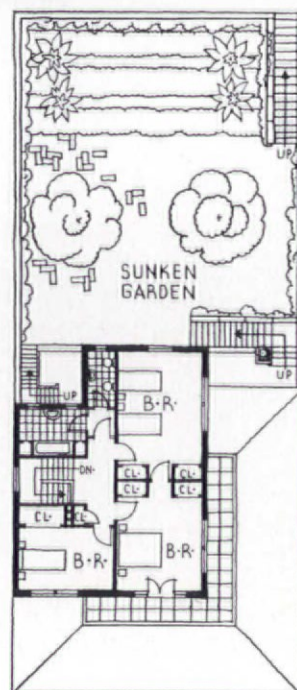
The Latin, whether of the Old or New World, shows little inclination to swallow the modern formula in its entirety. Centuries of sunlight have bred a profound distrust of the glass facade, and the sweeping overhangs of this house in Montevideo represent one expression of it. The heavy appearance of the house may not appeal to Northern tastes; it represents, however, a striking illustration of modern architecture conditioned by climate and tradition.



LOWER FLOOR



0 5 10 15 MAIN FLOOR



UPPER FLOOR

110. HOUSE FOR W. B. DE LACY, GARDEN CITY, L. I.



Gustav Anderson Photos

With the possible exception of the mass, the most important single factor in the determination of the character of a house is its fenestration. In this example, whose general effect is not unlike that of earlier dwellings in the Eastern States, the substitution of metal casements for wood double hung windows has subtly altered the external appearance. The shutters, obviously, have been reduced to no more than decorative survivals of once useful accessories, as their operation in connection with casement windows is practically impossible. The general exterior treatment is simple, with textural interest provided by the brickwork. Accent in the facade is given by a crisply designed doorway, in excellent scale and character with the rest of the elevation.

CONSTRUCTION OUTLINE

FOUNDATION

Footings } 12 in. concrete.
Walls }
Cellar floor—concrete with cement finish
except play room which has oak floor-
ing over concrete.
Waterproofing—integral, The Truscon Lab-
oratories; walls dampproofed on inside.

STRUCTURE

Outside walls—4 in. cinder blocks.
Partitions—non-bearing, wooden studs.
Floors—Truscon nailer steel joists.
Attic floor—2 x 10 in. beams, 16 in. o. c.

EXTERIOR SURFACE

Brick veneer—4 in. brick.

ROOF

$\frac{1}{4}$ in. black bangor slate, No. 30 felt under.
Gutters } copper, Anaconda, American
Leaders } Brass Co.
Flashing }

FLOORS

Living room—oak plank, random width.
Sleeping rooms—white oak, strip.
Halls—oak plank, random width.
Kitchen—pine, covered with rubber tile.
Bathrooms—4 x 4 in. ceramic tile over
concrete.

STAIRS

Treads—oak, stringers and risers, pine.
Attic stair—yellow pine.

DOOR AND WINDOW FRAMES

Sash—steel casement, Truscon Steel Co.
Doors (exterior)—special millwork.
Garage doors—overhead type, Rowe Manu-
facturing Co., Galesburg, Ill.

PORCHES

Bluestone flagging laid in concrete.

GLASS

Double strength, Libbey-Owens-Ford
Glass Co.

EXTERIOR PAINT

Walls—Mohawk wall paint.
Sash—steel paint, The Truscon Labora-
tories.

LATH AND PLASTERING

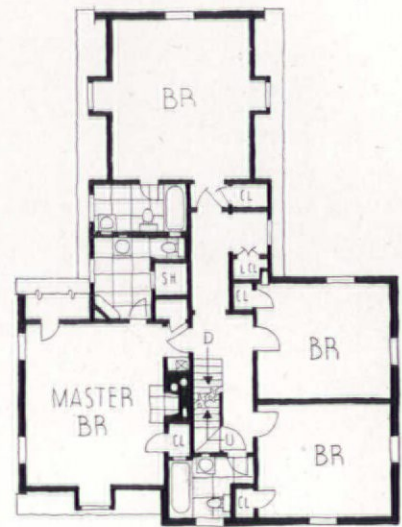
Outside walls—metal lath and plaster on
furring.
Partitions—metal lath and plaster on
wooden studs.
Ceilings—Hy-rib, metal lath and plaster.

INTERIOR WOODWORK

Trim } pine, special mill-
Shelving and cabinets } work.
Doors—6 panels, Morgan Sash & Door Co.

INSULATING

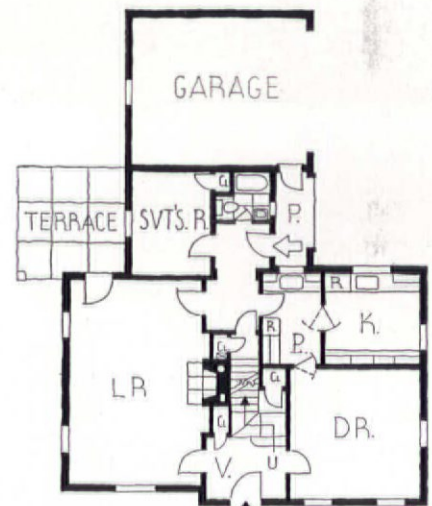
Outside walls—Ecod metal lath, hollow
blocks and furring space.



SECOND FLOOR



BASEMENT



FIRST FLOOR

CONSTRUCTION OUTLINE

Roof rafters—two layers of Alfol.
Attic floor—three layers of Alfol.
Weatherstripping.

INTERIOR PAINTING

Floors—Minwax
Trim—oil paint
Doors—oil paint
Sash—steel paint, The Truscon Laboratories.

Walls—living rooms—oil paint, Devoe & Raynolds Co., Inc.; bedrooms and hall—wallpaper, imperial, Richard E. Thibaut, Inc.; kitchen and bath—Salubra washable, Frederick Blank & Co., New York City.

ELECTRICAL SYSTEM

G. E. wiring system.

LIGHTING

Fixtures, especially made by McPhilen Co., New York City.

PLUMBING

Kitchen
Sink—Monel metal.
Cabinet—wood, special millwork.
Stove—The Estate Stove Co.
Refrigerator—Frigidaire, Division of General Motors Co.
Laundry equipment—porcelain tray, Standard Sanitary Mfg. Co.

Bathroom

Lavatories
Bath tubs
Toilets
Seats—C. V. Church Mfg. Co.
Showers
Cabinets—C. M. Ketcham Mfg. Co.

Pipes

Soil—waste and vent, cast iron.
Supply—red brass, 85 per cent copper.

HEATING

Type of system—vapor, Hoffman Specialty Co.

Boiler—Electrol Kewanee, oil fired, Kewanee Boiler Corp.
Hot water heater—Taco.
Radiators—Richvar concealed.
Valves—Hoffman Specialty Co.
Thermostat and regulators—Minneapolis-Honeywell Regulator Co.

CHIMNEY

Lining—clay tile.
Fireplaces—throat dampers, H. W. Covert Co.

HARDWARE

Interior—Solid brass, Sargent & Co. and Exterior—Stanley Works.

SCREENS

Flat—bronze mesh, fastened inside, Artex operator Truscon Steel Co.

SPECIAL EQUIPMENT

Radio outlets, Venetian blinds.

III. HOUSE FOR C. F. CORI, ST. LOUIS CO., MISSOURI



Alexander Piaget Photos

This suburban residence is another example of open-mindedness in the open spaces. Typically modern in the geometrical severity of the interlocking blocks which compose it, the house nevertheless departs from usual procedure in its attempt to create interest by the use of wood and brick patterns. The chief factor in the appearance of the modern house is its reliance on form rather than applied decoration for its effect; there is no reason, however, why ornament consistent with the materials employed should not be introduced. The advantages of the house, such as roof decks and the large wall spaces permitted by corner windows, are best indicated by the plans.

CONSTRUCTION OUTLINE

FOUNDATION

Footings } concrete.
Walls }
Columns—structural steel.
Cellar floor—concrete, cement finish.
Waterproofing—lime admix in concrete.

STRUCTURE

Outside walls—re-used common brick.
Partitions—No. 1 common yellow pine.
Clapboards—California redwood.
Stucco—Portland cement, Portland Cement Assn.

ROOF

Built-up—asphalt on sheathing, The Philip Carey Co.
Gutters }
Leaders } 16 oz. copper.
Flashing }
Salt glazed tile drains.

FLOORS

Living room }
Sleeping rooms } white oak.
Halls }
Kitchen—linoleum.
Bathrooms—ceramic tile.

DOOR AND WINDOW FRAMES

Sash—casement type, California redwood.
Doors and frames (exterior) } California redwood.
Garage doors }

PORCHES

Reinforced concrete slab covered with brick.

GLASS

Double strength, Quality A., Libbey-Owens-Ford Glass Co.

EXTERIOR PAINT

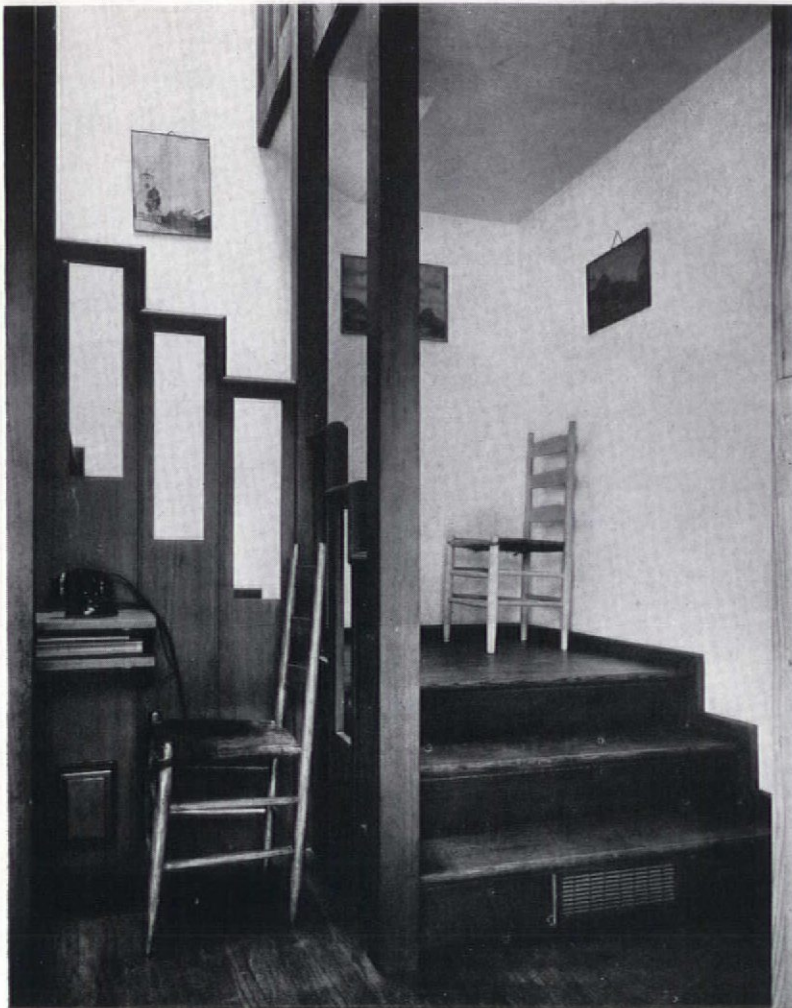
Brick walls—two coats white cement paint.
Siding }
Trim } two coats boiled linseed oil.
Sash }

LATH AND PLASTERING

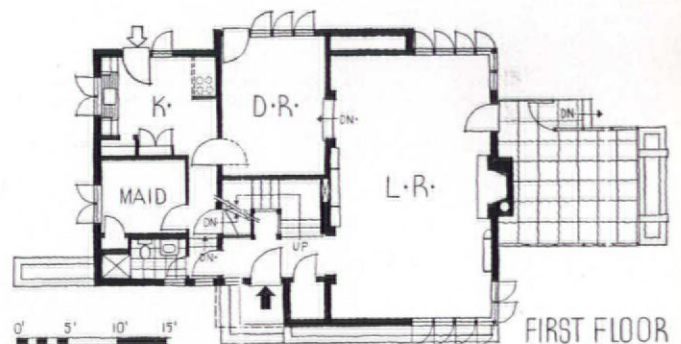
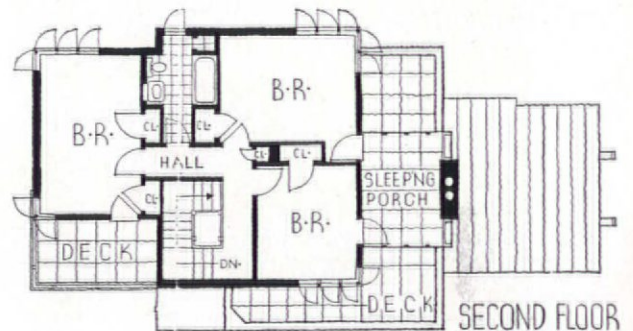
Lathing
Expanded metal.
No. 2 soft wood lath.
Plastering
Three coat plaster—finishing coat, lime putty and plaster of paris.

INTERIOR WOODWORK

Trim }
Paneling } California redwood.
Shelving and cabinets }



The plan, with the exception of the corner windows, does not differ in any important respect from that of a house with a more conventional exterior, although the arrangement of rooms and services is more convenient than most. Decks are well located for use by all three bedrooms. The upper stair hall has no windows in it, apparently for reasons of external appearance, since there is ample wall space for several.



CONSTRUCTION OUTLINE

INSULATING

Outside walls—furring space between wall and plaster.
Roof rafters } 4 in. Gimco rockwool, Gen-
Attic floor } eral Insulating & Mfg. Co.
Weatherstripping—bronze.

INTERIOR PAINTING

Floors }
Trim } Minwax stain fill and finish.
Doors }
Sash }

LIGHTING

Fixtures—special to architect's design by Architectural Bronze Studio, St. Louis.

PLUMBING

Kitchen
Sink—Standard Sanitary Mfg. Co.

Cabinet—by local mill.

Stove
Refrigerator—General Electric Co.
Laundry tray

Bathroom

Lavatories }
Bath tubs } Standard Sanitary Mfg.
Toilets } Co.

Seats—Church Mfg. Co.
Showers—Weistall, Henry Weis Mfg. Co., Elkhart, Ind.

Wall finish—paint and tile.

Pipes

Soil and vents—cast iron.
Supply—galvanized iron.

HEATING AND AIR CONDITIONING

Winter air conditioning system (humidity, heat and circulation), gas-fired, Mueller Furnace Co.

CHIMNEY

Lining—terra cotta.

Fireplaces

Facings }
Hearths } hand-made sand mold brick.
Mantels }

Damper—H. W. Covert Co.

HARDWARE

Interior }
Exterior } Hope's Windows, Inc.
Statuary bronze finish—Sargent & Co.

SCREENS

Frame—redwood.
Mesh—bronze.

112. HOUSE FOR WILLIAM K. DUNBAR, PLAINFIELD



R. W. Tobbs Photos

The half-rural, half-suburban character of this house is well suited to its surroundings, on the outer fringe of Plainfield's residential section. The land around it is as yet undeveloped, and the house has been placed to ensure privacy for its occupants when other houses are built near it. The living portion of the house is screened from the road by the garage, and opens on a small terrace in the rear. The exterior treatment is simple in the extreme, with slight variation in color or materials.

CONSTRUCTION OUTLINE

FOUNDATION

Walls—concrete blocks
Columns—lally.
Cellar floor—cement, waterproofed with anti-hydro.

FRAME CONSTRUCTION

Studding }
Floor joists } wood
Rafters }
Girders—steel

MASONRY CONSTRUCTION

Common brick walls—second-hand brick, hard burned.

EXTERIOR SURFACE

Clapboards—beveled cedar, 6 in., 8 in. and 10 in. wide.

ROOF

Wood shingles on shingle lath—18 in. perfection cedar, left natural.

Valleys }
Gutters } copper, 16 oz.
Flashing }
Down spouts }

DOOR AND WINDOW FRAMES

Sash and frames
Double hung—Silentite, Curtis Cos., Clinton, Ia.

Doors and frames (exterior) } specially made by
Garage doors } local carpenter.

PORCHES

Brick floor—second-hand brick.

EXTERIOR PAINT

Siding, Trim and Sash
Priming } white lead and linseed oil.
Finish coat }

LATH AND PLASTERING

Lathing
Composition plaster base—insulating lath 18 x 48 in., Johns-Manville, Inc.
Plastering
Brown coat steel troweled to simulate old plaster.

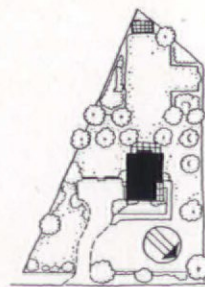
INTERIOR WOODWORK

Trim and floors—No. 2 white pine.
Shelving, cabinets and interior doors—specially made by local carpenter.

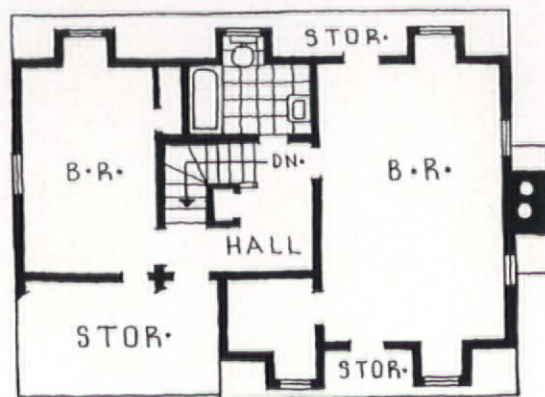


KITCHEN

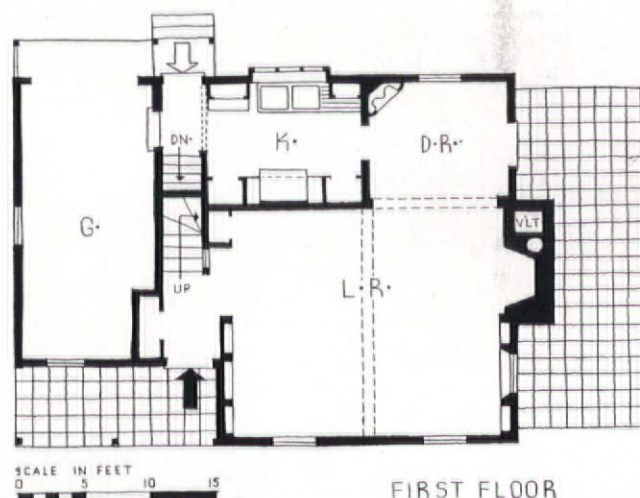
To take advantage of a view the living room was turned away from the road, with the garage at the front of the house. Dining room and living room were treated as one area, an arrangement most desirable in a house of this size. Circulation is easy and the location of the service entrance is right.



PLOT PLAN



SECOND FLOOR



FIRST FLOOR

CONSTRUCTION OUTLINE

INTERIOR PAINTING

Floors—filled, stained, varnished and waxed.

Trim } living room, first and second
Doors } floor hall, kitchen, dining bay—
Sash } stained, shellac, wax; bedrooms
Walls } and bath—enameled finish wood-
work; walls and ceiling—oil
tinted, except bath, enamel
finish.

WIRING

Cable—BX

Electrical fixtures—special design, Plain-
field Lighting Fixture Co.

Switches—Hart & Hegeman.

PLUMBING

Kitchen

Sink—combination sink and tray, 52x25
in. Standard Sanitary Mfg. Co.

Stove } Westinghouse Electric &
Refrigerator } Mfg. Co.

BATHROOM

Fixtures—Standard Sanitary Mfg. Co.
Accessories—Hoegger, Inc., Weehawken,
N. J.

PIPES

Brass.

HEATING

One pipe steam system.

Boilers—The Thatcher Co., Newark, N. J.

Radiators—concealed, Modine Mfg. Co.,
Racine, Wis.

CHIMNEY

Fireplaces

Facings—second-hand brick.

Hearths—second-hand bluestone
flagging.

Mantels—fir timber, No. 2 white pine
paneling.

Damper—oldstyle, H. W. Covert Co.

HARDWARE

Interior—
Batten doors

hinges, The Stanley
Works; latches, P. &
F. Corbin, some an-
tique w.i. strap hinges.

Exterior
doors

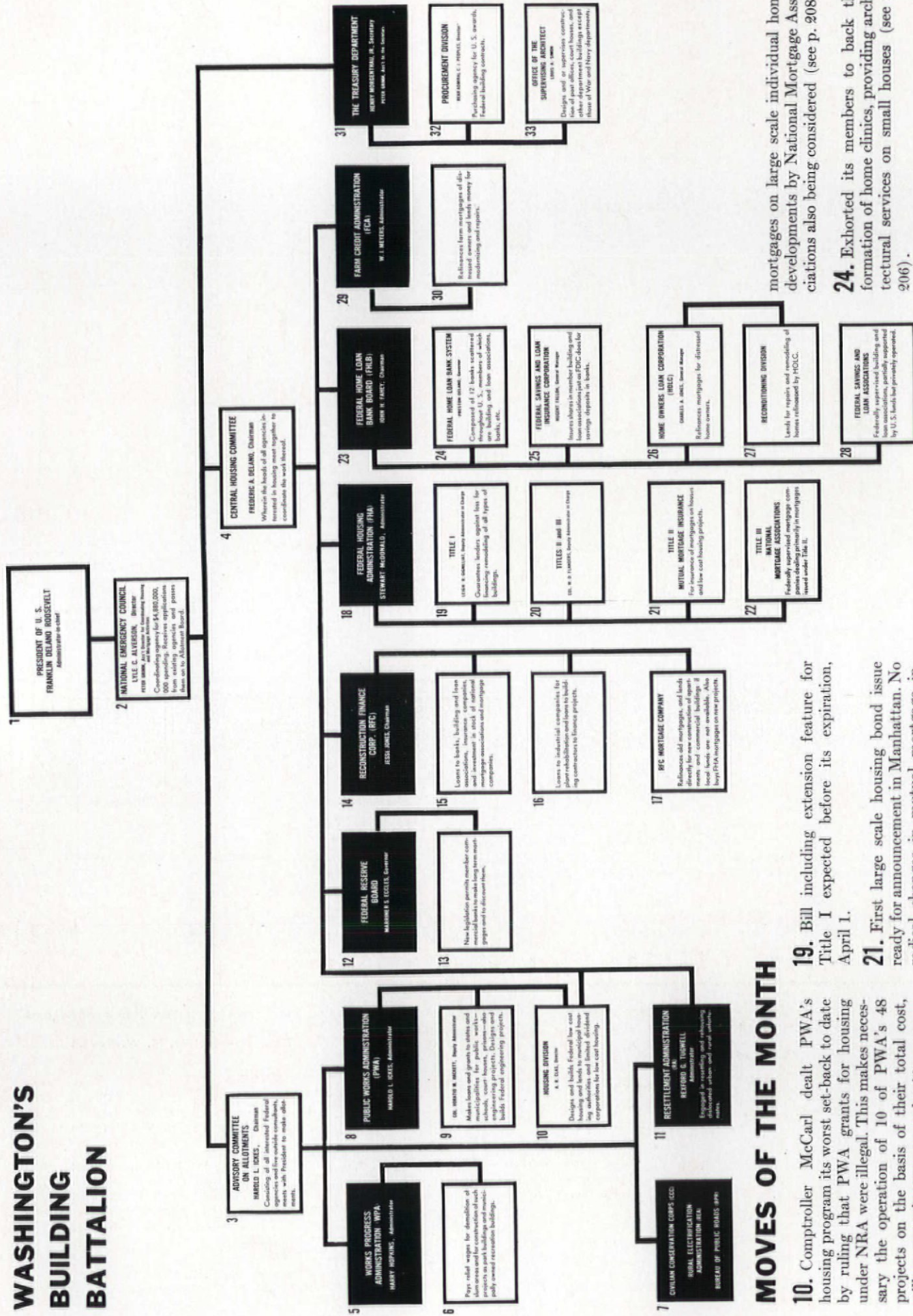
two leaf sheradized steel
butts, blind hardware, The
Stanley Works; black iron
boxlocks with brass knobs,
P. & F. Corbin.

SCREENS

Silentite, Curtis Cos., Clinton, Ia.

Contractor and millman—Oscar Andreason.

WASHINGTON'S BUILDING BATTALION



MOVES OF THE MONTH

10. Comptroller McCarl dealt PWA's housing program its worst set-back to date by ruling that PWA grants for housing under NRA were illegal. This makes necessary the operation of 10 of PWA's 48 projects on the basis of their total cost, will up rents in some cases by \$2 per room (see p. 3).

12. New members named (see p. 3); really loan provisions being formulated.

19. Bill including extension feature for Title I expected before its expiration, April 1.

21. First large scale housing bond issue ready for announcement in Manhattan. No radical changes in mutual mortgage insurance planned by Administration (see p. 208).

22. Plan afoot to organize a National Mortgage Association with RFC capital,

mortgages on large scale individual home developments by National Mortgage Associations also being considered (see p. 208).

24. Exhorted its members to back the formation of home clinics, providing architectural services on small houses (see p. 206).

27. James J. Charters named Director of Reconditioning, Former Director George A. Nelson made Assistant Regional Manager of New York office.

with shares for sale to private interests. Amendments permitting purchase of mortgages from limited dividend corporations on low rent housing projects and of blanket

BUILDING MONEY

**A monthly section devoted to reporting the news and activities
of building finance, real estate, management and construction**

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Man of the Month ORIS PAXTON VAN SWERINGEN (see Page 202)

Acme, International, Underwood

OUTLOOK FOR AN EMPIRE

Van Sweringen means Railroads; but it also means one of the largest real estate holdings in the U. S. Notes on its history, its men, its possibilities in the light of a current revival.

News writers and financial commentators found it very exciting when announcement was made last summer that Eastern financial interests would offer for sale to the highest bidder the collateral on loans made to the Van Sweringen brothers of Cleveland.

It was a fascinating subject for speculation, that situation in which majority stock in a central holding company which had control of vast railway enterprises was to be put on the auction block. What would happen if somebody stepped in and outbid the Cleveland brothers in the public sale? Was a railroad empire in the making to be broken up or to pass intact into other hands?

Missed, or at least minimized by most of the writers who took such delight in discussing the sale from the railroad angle was the fact that in the same basket and tied with the same sort of ribbon was one of the most important groups of real estate holdings to come under one ownership in the country—the real estate upon which the entire Van Sweringen business structure was built.

If it was true that there was danger of the railroad map of the country having to be redrawn because of the outcome of the sale that September afternoon in the Muller auction rooms in New York's Vesey Street, it was equally true that the map of the Cleveland metropolitan area might have to be redrawn, should the hands which had shaped and guided its largest residential and its most important commercial building development be removed.

But the closely interrelated character of the Van Sweringen business enterprises—the very element which had created the situation which financial writers emphasized—was principally responsible for the uneventful manner in which the auction sale passed off. Control of the Vaness Co., which was on the block, carried with it control of certain railroad properties which others might have wanted, it is true. But it carried with it also control of great commercial buildings which ordinary railroad entrepreneurs would have found unwieldy, and great tracts of residential property which they would have had no wish to handle.

The Vaness Co., whose stock was sold to the Mid-America Corp., was, until the sale, top holding company in the whole Van Sweringen set-up. Directly or indirectly, all Van Sweringen ownership was centered in

it. Details of the whole set-up are not pertinent here, but it is important to note that the Vaness Co. controls the Van Sweringen Corp., which either directly or through a subsidiary, Cleveland Terminals Building Co., owns and operates seven great downtown Cleveland office buildings valued at \$44,000,000. The Vaness Co. also owns all of the Van Sweringen Co., developer of over \$81,000,000 of suburban real estate, and itself over \$30,000,000 rich in realty.

This is a sizable empire of realty, neatly divided between commercial and residential property. And its boss is Oris Paxton Van Sweringen, a mild-mannered man of 56. As all the world knows, there was until his death last January, a twin boss—Brother Mantis James Van Sweringen. These two started out in real estate together at the turn of the century. In the course of a modest endeavor they undertook to sell, for a Buffalo syndicate, some high class residence property on Fairmount Boulevard, then becoming one of the choice streets in the newest part of residential Cleveland Heights, just east of the city's border. Selling that property had two highly significant results. It convinced the young men that they had the ability to sell high class real estate and it brought sharply to their attention the possibilities of a certain terrain close by.



Lifeblood of a Subdivision

is its transportation. Here the "5:15" empties its nightly load of homeward-bound Shakerites at Shaker Square. There are 100 trains daily to and from Shaker Village on the rapid transit line which the Van Sweringens built to feed it.

Shaker. To the south of Fairmount Boulevard and stretching east from Coventry Road for a mile or so were the former Shaker home farms, which had been taken over by the same Buffalo syndicate from the religious sect which had occupied them since the early part of the nineteenth century. Here was land, some 256 acres of it, which was ideally situated by location to become a residential suburb. Beside its possibilities, the \$240,000 at which it was valued on the tax rolls was insignificant. The Van Sweringens took an option on the property—not on a strip of it nor on one end of it, but on the whole tract of 256 acres. And their success in developing it was as large as their enterprise.

It was in 1916 that the Van Sweringens built a rapid transit line from their Shaker Village to the center of Cleveland. Two-thirds the way in with their line and they struck the snag which was to make them famous beyond realty. That snag was a two-mile right-of-way owned by the Nickel Plate Railway. To get it they bought the whole line for \$8,500,000 (using \$500,000 of their own money). And so began a career in railroading which one day was to make them leaders in U. S. transport. But meanwhile, Shaker Village had successfully acquired its transit facilities.

The construction of this line marked the turning point in Shaker affairs. The boom was on. From 1919 through 1929 an average of 300 homes a year was built. Today the Village is a city. It has 161 miles of paved streets, more than 4,500 homes, seven churches, ten grammar schools, a high school, a junior high school, three private boarding schools and a university which represent a combined outlay of nearly \$10,000,000, three shopping and amusement centers, four golf courses, two other clubs, four lakes and many parks, but not one factory nor a single foot of railroad track other than that for the cars which transport dwellers to and from Cleveland.

There had been no instance in the history of American real estate development where any man or set of men had set such a definite plan for the development of so large a piece of property along such rigidly controlled lines as the Van Sweringens set for the development of the Shaker farm tract. Keystone of their plan was to accommodate houses in different price levels on the same tract of land without destroying the value of the more expensive homes.

To accomplish this they divided the property into sections, gave each section a rigid set of standards and front-foot prices. The division between sections was artfully camouflaged by the use of intermediate value requirements, by winding roads, by neatly placed ambuscades of trees. As was natural to expect, the development was really a series of developments, the factor which makes Shaker different from many residence localities being that each of the sub-developments, even after operations reached far beyond the original tract, was kept strictly in line with the original general plan.

The minutiae of Van Sweringen standards can be observed in "Shaker Village"

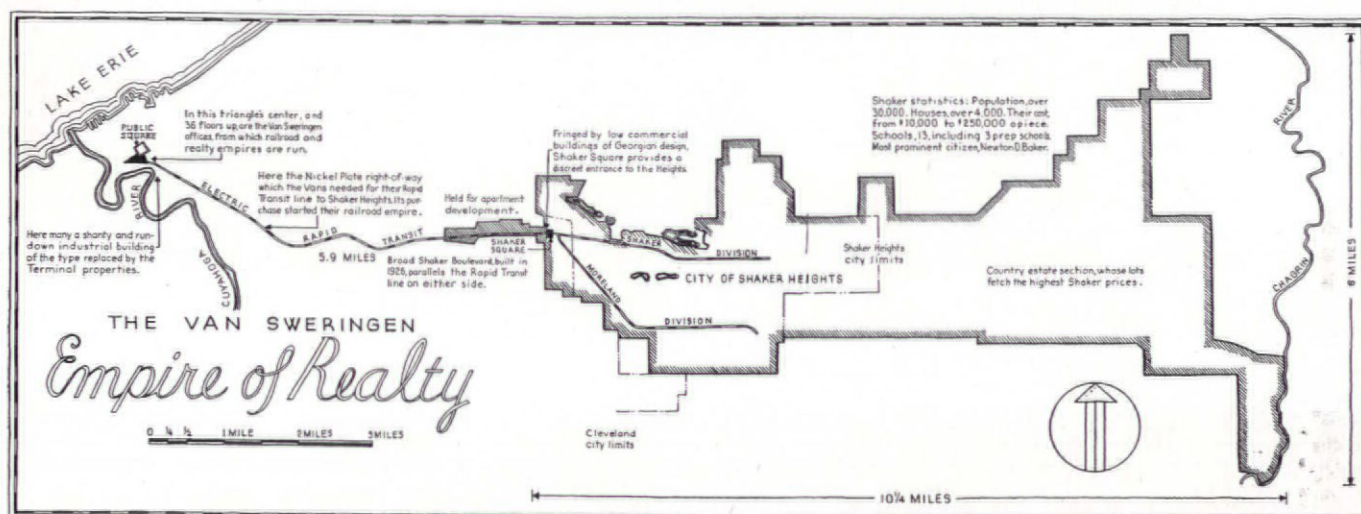
* Clevelanders call the Van Sweringen development Shaker Heights, which is the corporate name of the municipality, but the Van Sweringens call it Shaker Village to emphasize its peace and quiet.

Standards," a discreet and richly illustrated booklet which is issued under their imprimatur. Quietly but firmly it reveals to the prospective builder that his home may come only in certain well-defined styles. Most favored: Colonial, English and French. Furthermore, there are listed rigidly "appropriate" color schemes for these houses, not only as to walls, but as to trim and sash, shutters, doors, chimneys, fly-screens, roof, mortar, balconies, stucco, shingles, stone-work. "Shaker Village houses," the booklet typically announces, "have two or more 'fronts,' but no 'backs.'" And, of course, every plan must bear the approval of Van Sweringen architects before construction begins.

The Van Sweringens did no building (save a few "models" in new subdivisions), and at first they even left the job of selling lots to other companies. But in 1922 they took over the direction of their sales. Ac-

tivity in Shaker since then has been interesting. On the \$30,000,000 worth of land sold since 1922, more than \$67,500,000 worth of building has been done. The year by year building record:

Year	No. permits	Amount
1922	340	\$4,770,285
1923	441	5,151,488
1924	541	7,023,585
1925	556	9,128,530
1926	418	7,528,950
1927	508	8,874,590
1928	456	7,346,965
1929	402	6,499,950
1930	279	5,253,415
1931	190	2,587,810
1932	89	669,180
1933	74	605,463
1934	65	559,915
1935	152	1,411,000



Base map by F. A. Pease Engineering Co., Cleveland



Aerial Surveys, Inc.

A Map and the Two Focal Points in Van Sweringen Real Estate

From Lake Erie to the Chagrin River runs Van Sweringen realty. To build the connecting Rapid Transit line the Vans had to buy Nickel Plate right-of-way; thus did they enter railroading. The brothers enriched the Public Square (left) with an \$88,000,000 railway terminal, an \$18,000,000 office tower, an \$8,000,000 department store, a \$4,000,000 hotel and four

other buildings. Shaker Square (right) they built to provide an entrance to their Shaker subdivisions. The tall buildings in the view of Shaker Square are the Moreland Court Apartments, operated by the Shaker Co.; beyond them to the east stretch Shaker's 30 square miles of restricted homes and homesites.

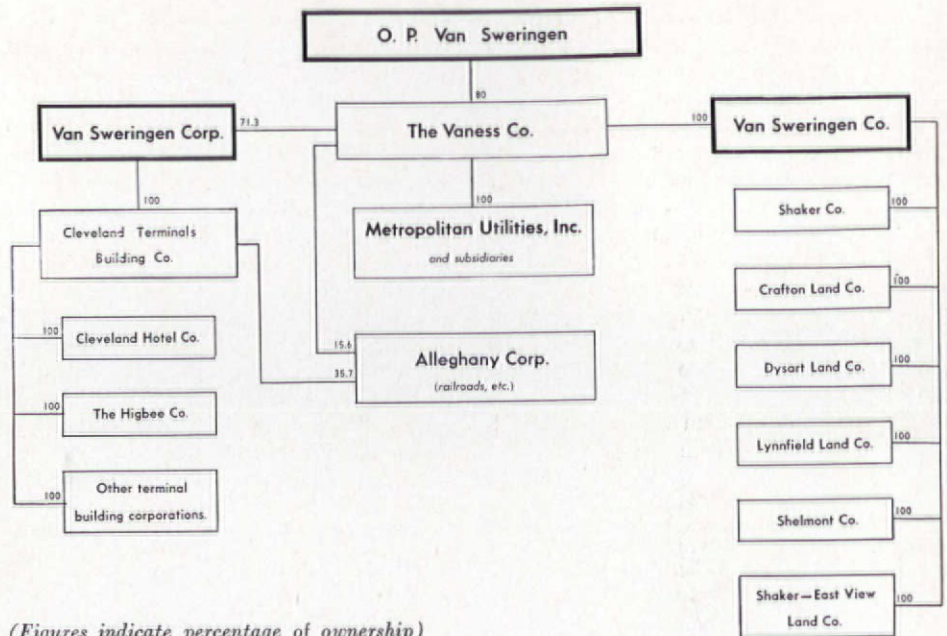
By 1928 Shaker Village was completely equipped with the broad boulevard which parallels the Rapid Transit, and the well-designed shopping center at its entrance, Shaker Square. Near the latter were the Moreland Court Apartments, which were built and are operated by the Shaker Co. This development, to which several additions have been made, is the only residential project directly operated by the Van Sweringen organization. The Square was developed partly to serve that project, partly to make more developments like it possible, as well as to serve the whole Village as a market place. One- and two-story Georgian buildings in neat balance around it accommodate several shops, a theater, a bank and a tavern.

Terminal. The rapid transit line with which the Van Sweringens had in 1920 connected their Shaker Village to Cleveland had its urban terminal in Public Square. Originally this Square was the center of Cleveland. Four blocks away a plaque still commemorates the first school. Closer than that is the spot where occurred the first public hanging. But by 1920 the business section of town had begun a blithe and booming Argosy up Euclid Avenue, leaving behind a mean and expiring Square.

The Van Sweringens decided to change all this. They announced plans for the re-orientation of Cleveland by the erection of a group of mercantile buildings on Public Square. There was an immediate howl. Such a move, it was pointed out, would destroy real estate values on booming Euclid, and would reverse the trend of the town's "natural" development. But a public referendum had handed the Van Sweringens their dream, four to one—and work was begun.

The group that resulted is today, in form, a triangle. Into its obtuse angle bites the Square. Where 2,200 slum-shanties had housed 15,000 people in 1920 today stands Cleveland's most impressive group of buildings. Dominating the whole is the \$18,000,000 Terminal Tower, on whose 36th floor O. P. Van Sweringen today has his corner office. Directly beneath it is the Union Terminal, Cleveland's only respectable railroad station. Built at a cost of \$88,000,000, it belongs almost entirely to the New York Central, the Van Sweringen interests reserving for themselves, through the Nickel Plate, a paltry 7 per cent interest.

One wing of the building group holds the \$8,000,000 Higbee department store building. The second wing holds the Cleveland Hotel, which cost \$4,000,000. Back of this group from the Square are four more Van Sweringen buildings: the Republic Building (home of Republic Steel); the Builders' Exchange (for construction men, etc.); the Terminal Garage (with space for 2,000 cars) and the Midland Bank Building. Excepting for the station and its ter-



(Figures indicate percentage of ownership)

Van Sweringen Realty's Corporate Structure

minals, the property is today completely owned by the Van Sweringen Corp.

Today. The downtown group of Van Sweringen realty was not completely opened until the depression was well under way, has yet to have a fair chance to prove its worth. Neither O. P. Van Sweringen nor his lieutenants will divulge current facts and figures on the group, but public facts there are enough to demonstrate that it has met with the difficulties which might have been expected of an attempt to change the location of an entire city's business center in the middle of a depression.

Six million in bonds of the \$18,000,000 cost of the Cleveland Terminals Building Co. which went to finance the Terminal Tower were readjusted in 1933. Other indebtednesses on the downtown property, including an \$8,000,000 mortgage by Metropolitan Life on the department store building leased to Higbee's, have also been adjusted at various times.

The current position of the suburban properties (held by the Van Sweringen Co.) can be more easily defined. As of December 31, 1935, this real estate company showed the following:

Total assets: \$44,393,031.
Total liabilities (book): \$31,962,128.
Contingent liabilities: more than \$2,000,000.
Land contracts and notes receivable: \$4,600,000.
Unsold real estate owned: \$29,900,000.
Outstanding stock: \$436,700 par value preferred stock, \$12,200,000 par value common stock.
Real estate taxes owed for 1930 to 1934, inclusive: \$3,242,418.
Real estate taxes for 1935 (estimated): \$1,027,039.

Outstanding bonds in two issues: \$3,949,200 and \$5,700,000.

Notes payable and obligations under land contracts: \$11,800,000.

The picture, it is plain, has changed drastically since the lush days of '29. But, in contrast, remember that sales are again on the rise in Shaker. An analysis of last year's building in Shaker showed that the average purchase price per house was \$14,000. Four thousand dollars of this fell into the Van Sweringen till as land cost. There is no denying that such figures show a reviving market for higher-priced houses.

For another indication of Shaker's future, especially insofar as faith in its management goes, it might well be observed how in such unencouraging years as 1932 and 1933 the Van Sweringens were able to get more than 90 per cent bondholder approval for their plans in reorganizing Shaker issues.

Similarly impressive percentages of holders agreed to the extensions made in the Cleveland Terminals Building Co. reorganization. Van Sweringen men take pride in the fact that these adjustments have been in maturities and in forms of securities only; there has been no shrinkage in face values.

Management. The reorganization work of the past few years has been a completely new experience to the two brothers who spent the greater part of their lives building up their empires of realty and railroads. But they have met their problems as they came along. Even out of the New Deal came such legislation as Section 77-B, enabling them to retain their management in cases where irresponsible bondholders might have made trouble. And although faced with many a discouraging figure-fact,

the shy brothers have not been hesitant to apply all their personal labor and skill as managers in dragging their heavy corporate entourage through the course that many a U. S. business has lately been obliged to take.

O. P. and M. J. Van Sweringen were notably close-working as a team, and they got the same cooperation from their organization. Their leaning toward vertical management has not extended so much to their real estate, because for years *they* were the managers of their real estate. O. P. Van Sweringen still is.

While too busy of late to keep track of details of real estate operation, "O. P." is keenly interested in them and will always take time to listen. No decision of major importance is reached until it has had his approval. He passes back and forth through Shaker boulevards daily and frequently consults with the officers of both the Van Sweringen Co. and Cleveland Terminals Building Co. on real estate matters.

An office adjoining his is occupied by Charles L. Bradley, who is president of the Cleveland Terminals Building Co. Of interesting origin is Mr. Bradley, square-faced, methodical manager of all the downtown real estate except the Terminal itself. As to how much the Terminal developments were Charles Bradley's dream as well as the Van Sweringens', little is known. It is well known, however, that the Bradley brothers, Charles and Alva, were big property owners in that run-down district. These properties were bought at the instruction of their grandfather, who upon turning over to their father a Great Lakes shipping line, advised him to sell the vessels and put his funds in real estate. Brother Alva still manages many of the original holdings.

President Bradley was with Cleveland's Union Trust Co. when the Terminal build-

ings were conceived. Drafted to build and manage them, he has remained to assume such other jobs as the chairmanship of the Erie railroad.

President of the Van Sweringen Co., the residential realty unit, is Benjamin L. Jenks, often characterized as "one of the family" by the Van Sweringen brothers. He was perhaps one of the closest personal friends of the two brothers, and still helps keep "Mr. O. P." company at his Daisy Hill farm home, hard by his own home. Mr. Jenks drew up the original architectural standards of discreet Shaker Village, and today has charge of their enforcement.

There is yet one other to whom the interested observer must look in any full exploration of the Van Sweringen realty empire, and that is the organization's long time super-salesman, Mr. George J. Arnold, vice president of both the Cleveland Terminals Building Co. and the Van Sweringen Co.

Vice President Arnold. As we have observed, there are few men with horizontal powers within the Van Sweringen realm. It has been a steadfast thesis of the brothers that a business is best run vertically, with no through-wall intermediaries. But with the depression, new jobs have arisen to call for frequent managerial pinch-hitting. When the reorganization of Van Sweringen securities called for selling talent a likely candidate for extra duty was George Arnold, for fifteen years star salesman of Shaker Village.

It was in 1930 that Vice President Arnold began to slight his long-held job as general manager of the Van Sweringen Co. to shuttle between the various jobs of financial patchwork to which he has been assigned. In the past five years he has superintended the reorganization of millions in Van Sweringen bonds in a manner

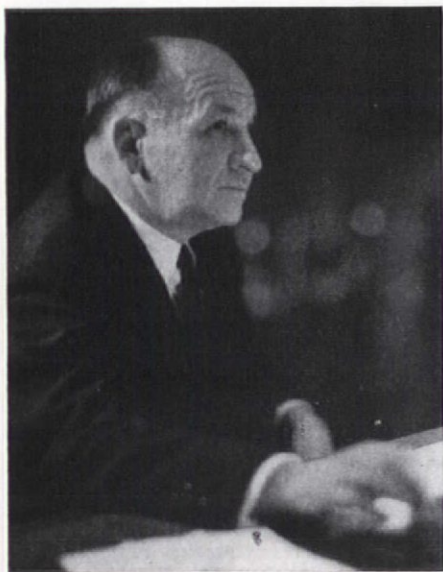
so successful as to be too big for the telling here. Suffice it to say that George Arnold ranks in any appraisal as one of the few first lieutenants in the Van Sweringen organization.

Like most good Van Sweringen men, Arnold lives in Shaker Village. He acts more like a banker than a real estate man, most probably because for five years he has been a Van Sweringen plenipotentiary in banking matters. Of average build for his 50 years, he wears well-tailored clothes, as a hobby likes best to talk about Shaker Village.

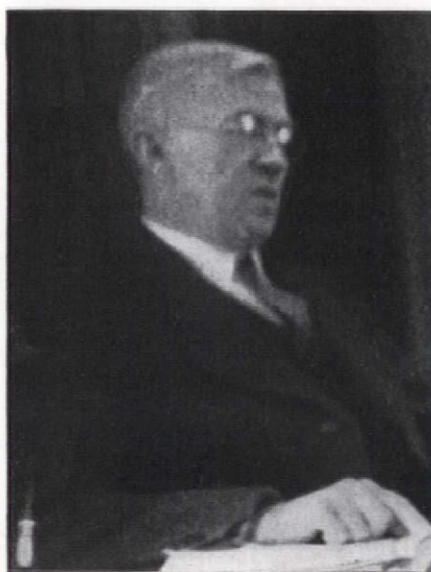
That such talk was about to become once again more than just talk was evident last month as George Arnold brought to a close what will probably be his last reorganization job—a financial revamping for the Van Sweringen Co., plans for which were filed, with more than the necessary amount of bondholders' consents, in a reorganization petition under Section 77-B in a Cleveland Federal Court. Every indication pointed to the Court's speedy acceptance of the plan, so far was it advanced and so fully was it approved.

Freed for the most part from his reorganizing activities, Lieutenant Arnold is concentrating again on residential realty. Significantly he brings back from his financial sortie a wider knowledge of participation financing which he will need when Van Sweringen plans to develop more apartment properties near Shaker Square are ripe. And, even more to the point, he returns to the same Shaker property for whose success he has in great measure been responsible.

Meantime, the Van Sweringen Co.'s timely reorganization, and the return of a valuable man for the announced purpose of its immediate and intensified redevelopment brings a note of cheer to U.S. realty and building ears which could hardly in any other similar way be sounded.



President Bradley



President Jenks



Vice President Arnold

Alkins

THE HOME CLINIC PLAN

**promises architectural service for the low-priced house.
The Plan's features, and its many backers.**

YEAR ago the high-pressure modernization drive of the Federal Housing Administration led to the formation of a number of local exhibitions promoting the home. The average such exhibition was a jumble of booths, planbooks, and ballyhoo which lacked any significant integration. But from them has sprung an idea which bids well to become one of Building's major stimuli during 1936—the Home Clinic.

The Home Clinic Plan was officially unfurled late month before last by the Home Loan Bank Board. Their plan involved the setting up of exhibition-consultation centers where professional services might be dispensed to home-builders at a nominal price. Keystone was the provision for architects' services on low-priced homes. Their services, obviously, had to be proffered at a fee commensurate with the low price of the house. The plan was thus dependent upon the American Institute of Architects' willingness to allow a reduction in fees by cooperating members, or, conversely, on the architects' willingness to ignore the A.I.A.'s rulings.

Forerunners. Isolated instances there had been where architects had successfully pooled sketches and plans for display at some central point to secure small house business. In Hartford, Conn., for instance, a lumber company provided such a central showplace (ARCH. FORUM, July, 1935, p. 72). But not until there grew up simultaneously in Buffalo and Baltimore, during last year's FHA drive, two organizations offering architects' services at lower fees, had the Home Clinic Plan definitely arrived.

The fee reductions which the Buffalo and Baltimore architects ventured were by no means made in any desire to cut prevailing rates for services performed, but in the happy consequence of services foreshortened. Which was the beauty of the Home Clinic Plan from the all-important standpoint of the architects. The Buffalo and Baltimore architects found the answer in simplifying plans and offering them co-operatively at a flat price, in scaling consultation and supervision down to a minimum. "Extras" they listed at so much per consultation, so much per change in plan and so much per visit at the site. Flat fees, in the case of the Buffalo clinic, graduate from \$100 for houses costing under \$4,000 to \$150 for \$7,500 houses, average approximately 2 per cent.

The two pioneer organizations function simply. Either attracted by publicity or directed to them by cooperating bankers,

subdividers or material men, home-seekers are shown the houses by a registered architect in charge. If attracted to any particular plan, they are immediately steered to the office of the architect who drew the plan. In the Buffalo clinic the architects offer the home builder complete blueprints and specifications, the work of receiving four bids and preparation of the contracts, three office calls and six visits to the site



Harris & Ewing

HOLC's MacNeal

for the nominal fee involved. The salary of the architect in charge and office costs are met by a 10 per cent charge on commissions thus received by the cooperating architects.

Backing. Although traditionally hostile to any move making for fee-cuts, the A.I.A. in convention last year looked smilingly upon these activities of its two renegade chapters, and at a meeting in December the Institute's directors endorsed its Committee on Housing's proposal to establish similar clinics through the local chapters everywhere, "in a manner to meet each local opportunity and demand for such professional service." Thus, without actually alluding to fees, did the A.I.A. provide for such reductions as are making the 1936 clinic drive effective.

Responsible for the A.I.A.'s home clinic pronouncements, as chairman of its Committee on Housing, was New York's Richmond H. Shreve, co-designer of the Empire State Building. Popular, practical-minded Architect Shreve's philosophy well epitomizes that of many an architect whose in-

terests have focused upon housing as his interpretation of the building market has grown more realistic.

Despite its dependence on the architects, the Home Clinic Plan was by last month quite definitely an all-industry affair. And although in a fluid and as yet evolutionary state, it had at least one set of backers, the nation's building and loan associations, already lined up for action.

The Home Loan Bank Board has for months been chewing over the idea as a major home promotion tool for its members. Most active in arousing FHLB interest in the plan was HOLC's former Director of Reconditioning, Donald H. MacNeal, now in charge of both reconditioning and appraisals. Together with Pierre Blouke, the Reconditioning Division's architectural supervisor, he outlined the Division's experience with architects for the Board and subsequently worked out the details.

Leaning backward in presenting the plan to its 3,460 associations on the surface lure of "its ability to attract new business," the Board strongly urged its acceptance on the basis that it "will greatly increase the safety of their investments." To demonstrate possibilities it listed six points in favor of the latter and obviously more important argument:

1. The Home Clinic Plan insures lasting value in design, an efficient plan, standard materials, and good workmanship.
2. It eliminates excessive costs resulting from waste in using unsuitable materials, from shoddy workmanship, and immature plans.
3. It reduces future repair bills and gives longer life to the house.
4. It insures a house suitable to the neighborhood.
5. It relieves borrowers of both the details and disappointments incidental to home building.
6. It insures more readily marketable properties.

As a business stimulant, the Board saw in it "all the sales value of new goods . . . unlimited material for fresh advertising, a new approach to clients . . . a new stimulus to the association's staff."

The Home Loan Bank Board tentatively proposed to make available to the System's members, through the twelve Home Loan Banks, a "service guide" showing how a home clinic might be set up, presumably, if necessary, in an association's own offices. But the Board stressed the available organizing genius of the 67 local A.I.A. chapters, wisely called for opinion from the associations before throwing out any more definite line of action.

Flagship. Cynosure of many a building eye last month was a clinic to be known as Small House Associates, which a group of architects was setting up for service in metropolitan New York. Being organized against the odds of Manhattan's well-

developed rental market, and about to introduce a feature sure to strengthen the scheme substantially, Small House Associates promised to provide a flagship after which planless young home clinics might well point their prowls.

Headed by a committee composed of Architects Harrison Gill, Geoffrey Platt and Frederick Woodbridge, the group which sought to make itself headquarters for the New York small house market had explored the possibilities of cooperation from every angle in the New York building industry, had found bankers, building and loan men and building supply people especially willing to cooperate. An office was secured in the Architects' Building, in Manhattan's midtown section, and was scheduled to open shortly.

The New York clinic promised to differ in this one important respect from its predecessors: it would have a staff man who would assume all of the supervisory work, freeing the individual architects from this responsibility. Fees and other essentials approximated those of the Buffalo and Baltimore clinics.

A Salt Lake City clinic proposing to exhibit and sell stock plans alone, omitting consultation and supervision, quickly won a disapproving instruction from the A.I.A.

Of actual results from the Home Clinic Plan there was but a scattering last month. The Buffalo clinic was reported not to be doing a rushing business, whether from a lack of sustained publicity or because of the season. But the plan had possibilities vastly interesting to the industry. Question was, could sufficient pressure be put behind it by some national agency quickly and forcibly enough to set it going in time for Spring building? The answer seemed to lie between the American Institute of Architects on the one hand and the Federal Home Loan Bank Board, alone or in combination with the Federal Housing Administration, on the other. And some extremely speedy coordinating seemed necessary to the plan's successful promotion nationally.

¶ A demonstration of the extent to which the exhibition aspects of the Home Clinic Plan might be expanded was about to be made in Los Angeles, where on a likely Wilshire Boulevard spot a group of six model low-priced houses, each of a different design, were going up under the auspices of the California House and Garden Exhibition.

Conceived and promoted by Miss Mary Louise Schmidt, founder and since 1914 director of Los Angeles' Architects Building Material Exhibit, the California project was possibly the most dramatic house-display plan ever to be carried out, outside a World's Fair. Houses by Winchton L. Risley, Arthur Kelly & Joe Estep, John Byers & Edla Muir, Richard J. Neutra, Paul Williams and an organization called the Better Homes Foundation were to be ready for display by March 1.

ARTICLES OF AGREEMENT BETWEEN THE BUFFALO SMALL HOUSE BUREAU AND ARCHITECTS

1. The Buffalo Small House Bureau, a non-profit cooperative group, will act as the Architect's Agent and will display the sketch plans hereinafter described, to prospective home-owners who come to the Bureau's office for consultation. The plans referred to hereinafter are meant to be "standard" or "stock" plans which will be resold as often as the Buffalo Small House Bureau and/or the Architect feel is in the best public interest.

2. The Architect agrees to be governed by the Code of Ethics, Constitution and By-Laws of the Small House Bureau. The Architect assumes full responsibility for the plans submitted by him as Registered Architect under the Laws for the Registration of Architects of the State of New York, and the Buffalo Small House Bureau acts only as his agent.

3. The Architect agrees to pay a registration fee of \$5. The Architect also agrees that for all commissions procured through the Buffalo Small House Bureau, he will pay the Buffalo Small House Bureau 10 per cent of each fee collected on each commission, but not to exceed \$10 on any one commission. Payments to the Buffalo Small House Bureau shall be made immediately upon receipt of payment by the Owner to the Architect.

3 (A). For services to be rendered by the Architect, as hereinafter described, he agrees to render service for the following fees:

Under \$4,000	\$100
\$4,000 to \$5,000	110
\$5,000 to \$5,500	115
\$5,500 to \$6,000	120
\$6,000 to \$6,500	125
\$6,500 to \$7,000	140
\$7,000 to \$7,500	150

3 (B). The Architect also agrees that changes to standard plans and specifications shall be charged at a rate of \$2.50 per hour. Also if extra visits to the building site are requested by the Owner over and above the visits, hereinafter stated, the charge for each visit to be \$5. Also for extra consultation over and above those hereinafter stated, the charge for each consultation shall be \$5.

4. The Architect agrees to furnish four sets of blue prints of working drawings at 1/4 in. scale with all necessary dimensions, heating, plumbing and electrical layout, necessary details and complete specifications. He is to receive not more than four bids on the work and prepare the contracts. He is to give three office calls and six visits to the building during construction as follows:

One when the excavations have been prepared for the footings.
One when the structure is ready for lathing.
One when the plastering has been completed.
Three further visits during the process of completion of the building.

5. The Architect further agrees that should the Owner decide to have a new set of plans and specifications drawn up after the Owner has selected a plan from the Buffalo Small House Bureau, the Architect will charge the prevailing rate of 6 per cent for such service.

6. The Architect further agrees that under modernization the following charges shall apply.

\$5 for each office call.
\$5 for each visit to job.
\$2.50 an hour for work on plans and specifications and all office work other than conferences with the Owner.

7. Each plan filed with the Buffalo Small House Bureau must have an exact duplicate sketch plan at 1/8 in. scale drawn on sheets 10 x 14 in. The sheet shall have floor plans with room sizes and designations, over all dimensions, wall section and one elevation or one perspective. Each plan must be accompanied with a bona fide statement as to the cost of the house complete, with a statement of cubic contents.

IMPROVEMENTS TO FHA

are both warranted by a creditable year and freely proposed. Its white hope for the future: National Mortgage Associations.

HARDLY a day passed last month that the press did not blossom with front-page news of new proposals for housing legislation. Some were authentic, some were nonsense, but all demonstrated one fact: the Federal Housing Administration was far in the ascendancy over any of its brother organizations in Capital housing thought.

On it the Administration had set to work its best housing brains and bill drafters, and every possibility for broadening its services was being checked. It was the FHA's second experience with a Congress in session, but to all practical purposes it was taking its very first birthday bow before its sometimes fickle and lately cautious progenitor. Amended slightly at last year's session, the FHA comes before Congress this year with a successful building year behind it, to seek its reward in amendments more important to its purpose of mortgage reform.

Whether all the FHA asks for will be granted rested on a number of factors, most plain and potent of which last month was that body's happy position with respect to various New Deal lending and spending agencies, which together with the Bonus were playing havoc with the budget. As much for the contrast it presented in this respect as for any other reason, it stood high in inter-Administration councils as worthy of further continuation and development.

In its announced first purpose to loosen private building money with a guarantee, FHA's season-end record was a creditable one. Evenly divided between modernization loans and loans for new construction, the \$600,000,000 in FHA loans to date was not so significant in its amount as for its substance. Extension for Title I beyond its April 1 deadline was assured for its feat of having extended the character loan to home finance. Analysis of the substance of Title II's loans revealed more pathfinding. It had succeeded spectacularly in prying into an entirely new source of credit for building: the commercial bank. Over 60 per cent of its loans-insured had been made by such agencies, including national and state banks (see charts).

Other significant facts disclosed in FHA's year-end report, released last month:

1. Thirty-five per cent of the loans guaranteed went to finance new construction; 65 per cent for refinancing.

2. Next to commercial banks, insurance companies were highest in the percentage of new construction loans to loans for refinancing; refinancing was highest with the

savings banks and building and loan associations.

3. The most prevalent type of mortgage for new construction ran from \$2,000 to \$2,999; for refinancing, \$3,000 to \$3,999. Loans of 17-20 years duration were prevalent in both cases.

What is the only completely inactive feature of the FHA today was intended to have been the chief tool in spreading its influence. National Mortgage Associations were to have made the FHA mortgage superior because highly marketable; but as yet the prospects of profit from these associations are not sufficiently attractive to private capital. A quick upping in volume of FHA loans or some further rearrangement of the provisions for these Mortgage Associations are two means to this end now being given careful study.

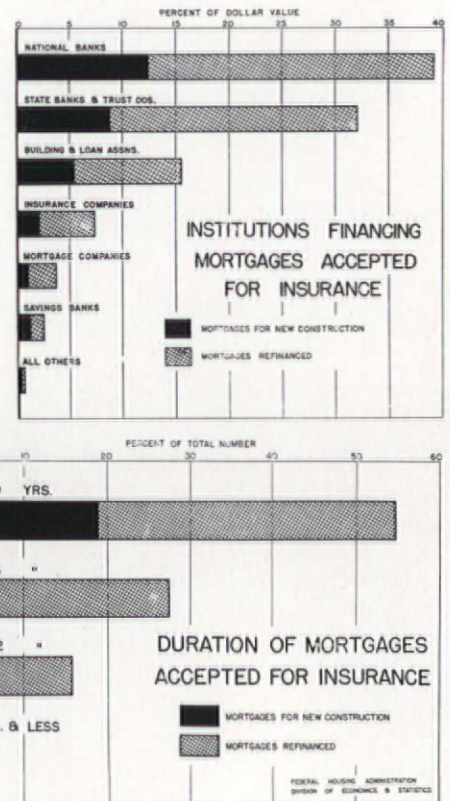
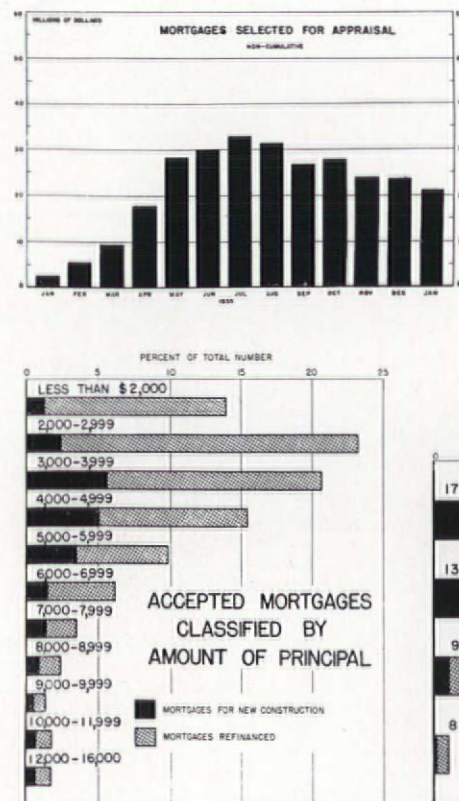
One key to the former means is to step up lending under the "large scale" housing section of the Housing Act. Only one loan of this special variety has been insured to date. However, good indication that such lending might shortly be increased lay in the fact that the FHA's long awaited "large scale" housing bond issue plan

(ARCH. FORUM, Nov. 1935, p. 520) was about to go to work. In Manhattan, the bond house of Carr, Henry & Doyle had what it hoped would be the first such issue within a few days of announcement.

In addition, the Administration was quietly conjuring with amendments which would more directly stimulate the formation of National Mortgage Associations, and would broaden their services. Like the Mortgage Banks, outlined month before last by New York's State Mortgage Commission (ARCH. FORUM, Feb. 1936, p. 132), the Associations would be allowed to lend directly as a chief come-on to private capital.

More radically, another plan being considered in Administration circles called for the immediate formation of a National Mortgage Association by RFC capital, with shares for sale to private interests. Such an RFC-formed Association according to current plans would have the power to purchase mortgages on low rent housing projects directly from limited dividend corporations, and also to purchase blanket mortgages in large scale individual home developments.

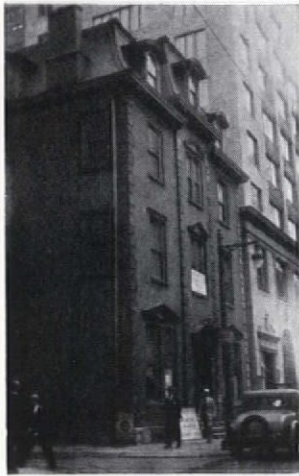
So went the most lively thinking in Washington on a subject of concern to Building. Some confusion was caused when last month New York's Senator Robert F. Wagner, long-considered an Administration spokesman, advised heretical changes to the FHA in a home-State speech. But thus had even a low rent housing champion come to believe it worth its salt.



A Year of Title Two Lending Charted

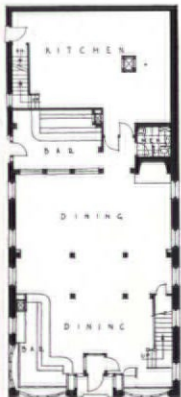
REMODELING FOR PROFIT: 6

Sea Food House for Calaboose in Philadelphia



FLOOR PLANS, AFTER

SCALE IN FEET
0 5 10 15 20 25



FIRST FLOOR

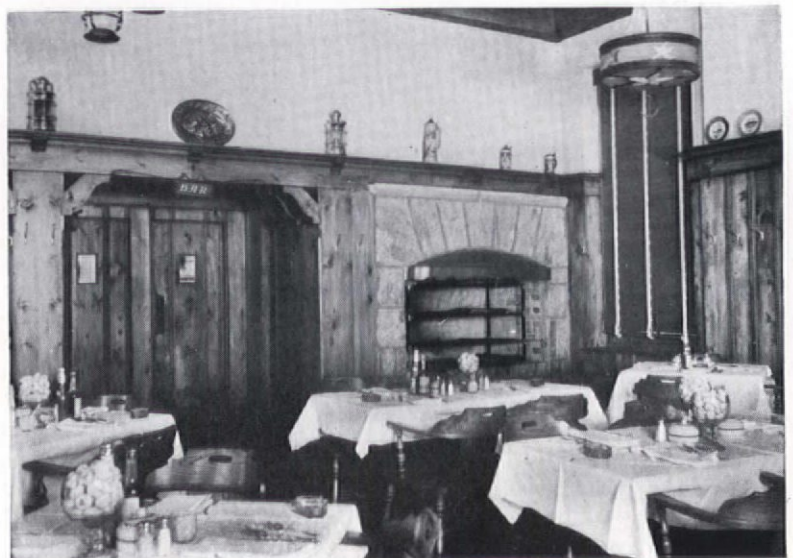


SECOND FLOOR

When Philadelphia's police department abandoned its age-old station-house on that city's downtown Fifteenth Street, an estate administered by the Pennsylvania Co. bought it, was content for years to let it rest without improvement. This year Architects Thalheimer & Weitz brought the estate a tenant and a proposition which changed its mind. A branch of that same Bookbinder family which has long operated a popular Philadelphia sea food restaurant wished to start a new business, needed big, central quarters. It got them in the old four-floored station-house which the architects have remodeled economically in the current tavern style. Assessed value before remodeling, \$170,000; taxes, \$4,845; rents before remodeling, none. Cost of remodeling, \$20,000; rent after remodeling, \$8,000 minimum, 6 per cent of annual receipts above \$200,000.



OYSTER BAR



GRILL

P. R. Wallace Photos

REMODELING FOR PROFIT: 7

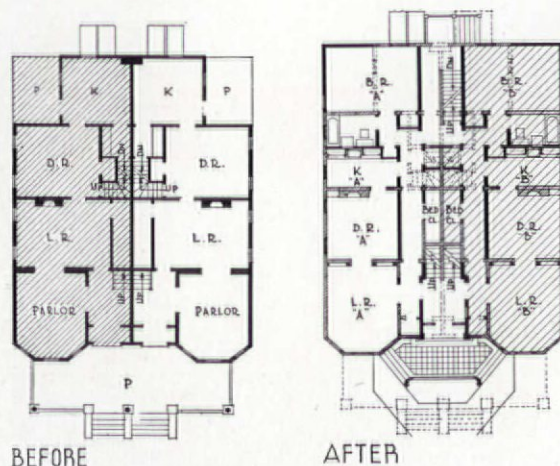
An Oversized House in Freeport, Ill., Made Rentable Again



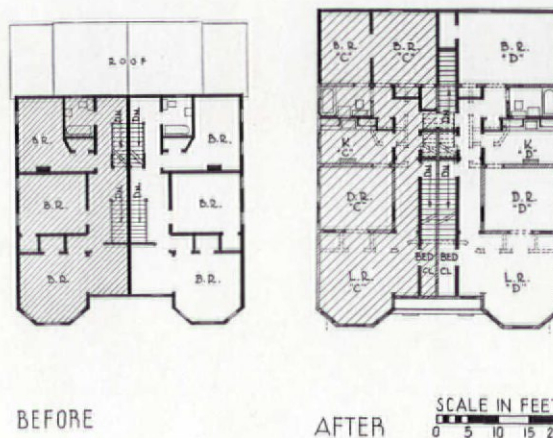
Freeport, Ill., residents had a chance to get a lot of house for their dollar before this big structure was remodeled, but they did not like its size. Nor did they like its state of disrepair. Hence both sides of the house had long remained untenanted. Architect A. Reyner Eastman decided that the most revenue could be obtained by dividing it into four small units, each with a guest bed-closet near the living room. A new heating system with thermostat control, new compact kitchen units and other general improvements throughout the house brought tenants immediately at \$50 each per month. Original cost (1901), \$4,500; rents before remodeling, none. Cost of remodeling, \$10,500; rents after remodeling, \$2,400.



FIRST FLOOR



SECOND FLOOR

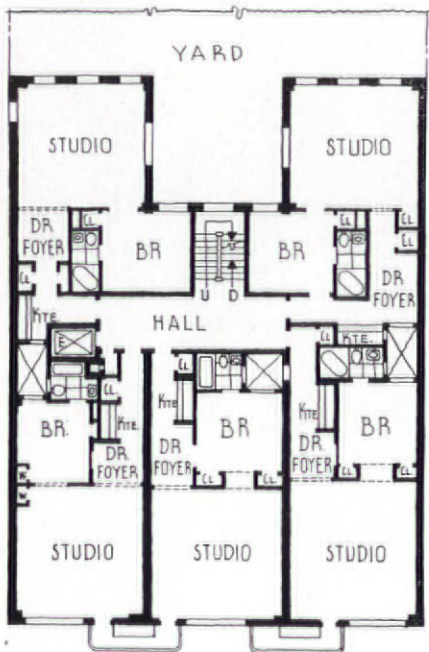


SCALE IN FEET
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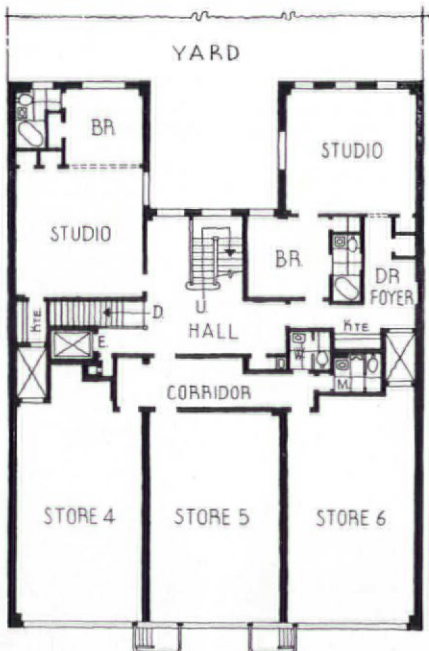
REMODELING FOR PROFIT: 8

Modern Studio Apartments from Empty Tenements

THIRD AND FOURTH FLOORS



SECOND FLOOR



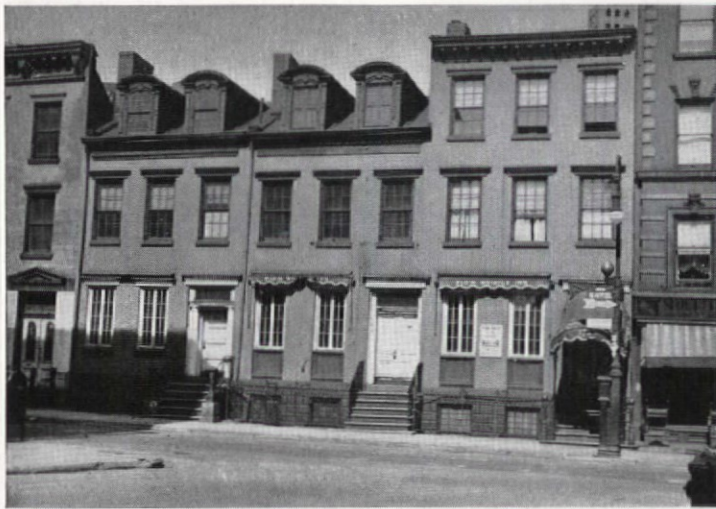
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Through judicious use of glass and chromium, Architect William L. Rouse lifted the standard of this semireproof building to the high rent levels of newer apartments near Manhattan's 57th Street. Into the empty tenements Agents Klein & Jackson installed an automatic elevator, incinerator, casement windows, built-in dining sets and neo-angle bathtubs, made the structure both completely and smartly equipped. The outside second-story stores bring \$150, the middle one \$125. Assessed value before remodeling, \$404,000; rents before remodeling, none; cost of remodeling, \$40,000; rents after remodeling, approximately \$30,000.

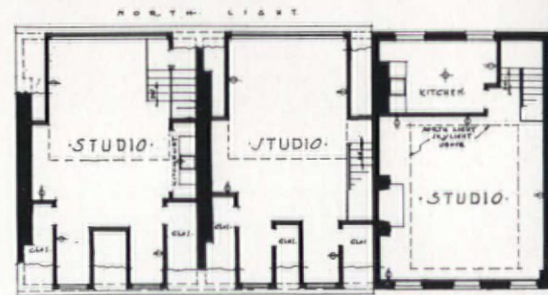
REMODELING FOR PROFIT: 9

Restaurant to Studios in Manhattan's Greenwich Village

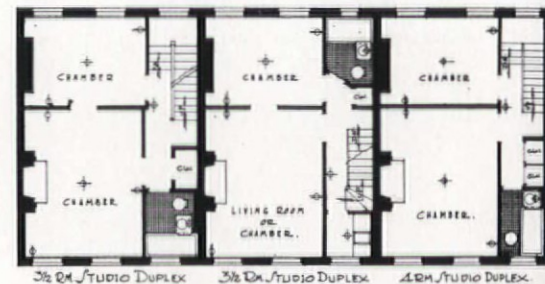
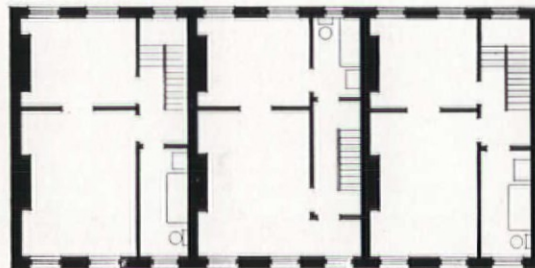


In Manhattan's Greenwich Village many a candle-lit eating-place tenants cheap, one-time residential space. Such a place was the famed Pig 'n' Whistle Inn, which long occupied the interconnected first floors of these three buildings. The Dry Dock Savings Institution became unwilling owner of the lot of these last year, decided to restore them to studios. In doing so, Architects Aaronson & Heidrick made no unusual changes, were wisely content to capitalize on the sound lines of the original architecture. Sandblasting restored the painted brick fronts to their former texture. Mortgage at foreclosure, \$26,000; rents before remodeling, none. Cost of remodeling, \$15,000; rents after remodeling, \$4,500.

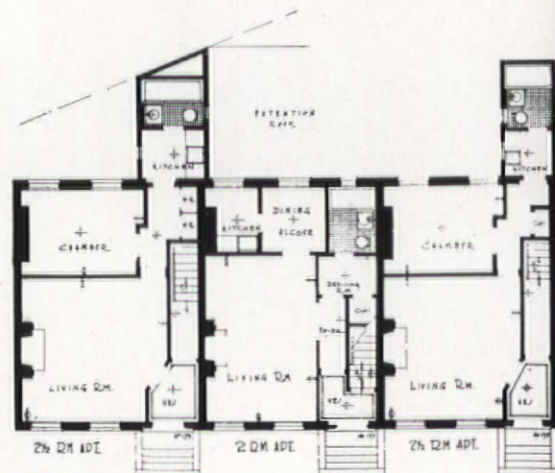
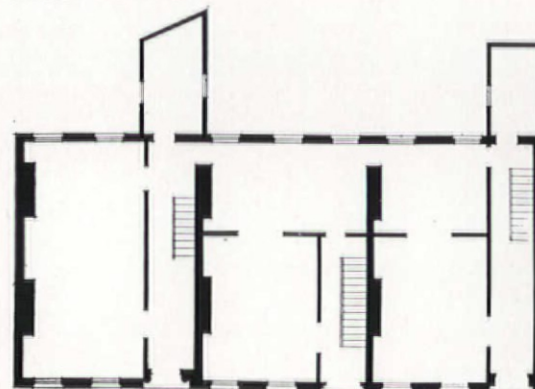
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



BEFORE

AFTER

LIFE COMPANY REALTY

continues to accumulate. But the problem is being met with a smooth-running system for upping income, conserving values.

PRIOR to 1931 the real estate holdings of life insurance companies in the U.S. were kept well under 3 per cent of the total admitted holdings. For the 49 major companies this percentage translated itself into real estate holdings of about 600 million dollars, and represented largely home office properties.

Since 1931, however, the real estate holdings of life insurance companies have tripled both in percentage held and in value. Today the 49 major companies hold 1.9 billion dollars of real estate, a sum which accounts for nearly 9 per cent of their portfolios.

The reason for this unprecedented increase in real estate is, of course, the wave of foreclosure which has swept the country. Acquisition of property started in 1931, settled down to a steady pace in the following year, today runs about 19 per cent of the original portfolio, or at a rate six times greater than real property is being sold by the companies.

As a result of this large transfer of property to new hands, the life insurance companies have been presented with a problem which is far removed from their experience: the management of real estate. Previously, these companies had no regular real estate department, no technique for the holding, rental or sale of extensive real estate properties, and in subsequently formulating their policies on real estate management they were forced to start from the scratch of complete inexperience.

In the belief that the approach of these large and experienced bodies to a new problem should prove of interest to all concerned in the intricate question of property management THE ARCHITECTURAL FORUM has conducted a study of the methods formulated by the life insurance companies in the urban realty field. The results are presented herewith.

Organization. With almost no exception, final authority on the acquisition, rehabilitation, management and sale of urban real estate rests with the finance committee of the board of trustees or of directors, whichever the insurance company may have. The chief real estate officers appear before its weekly meetings to present, in advance of execution, all acts, proposals, and plans that the committee has previously determined not to delegate to the staff. Typical of these are rehabilitation jobs of more than \$2,000, long-term leases, rent schedules on large properties, sales at figures below the book value, general questions of policy, and broad matters of personnel and field organization.

In the medium-sized companies we find a greater number where actions of the executive officers are taken to the committee after, rather than before, the deed is done; that is, for confirmation. Stress is laid on more definite rules for procedure, more finely drawn delegation of authority, rather than on performance on a case basis. This gives the benefit of more

flexibility and greater speed in company transactions.

Under the committee comes the chief mortgage and real estate officer, who, because he has probably grown up in the company, is steeped in its particular traditions and ritual. His eyes and ears must be his field men. It is a slow process by which he and his executive staff come to see how in real estate operations, unlike mortgage lending, the owner may not be in the driver's seat, to see why many methods and practices have to be adopted from the field pressure rather than from the rigidity of home office customs and ways.

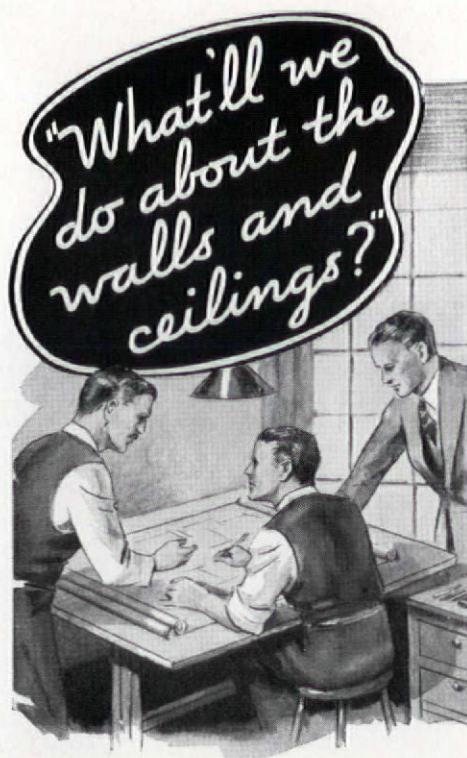
In the largest companies there has been an apparent tendency to establish segregated real estate departments under this chief officer. The medium sized companies have drifted toward delegation of the real estate problem to a single junior officer.

The majority of companies concentrate their operating control of real estate in the home office. Decentralization into self-contained branch offices or by the route of supervisory regional offices can be financially justified only with the large companies. Such decentralization has in the main followed plans previously worked out for the servicing of mortgage loans.

In a typical set-up, the local property manager is free to spend for rehabilitation up to \$25 on any property, the company field man up to \$200, and real estate department subalterns up to \$500, the senior executive officer up to \$2,000. Above that the item goes to the finance committee. On leases, the property manager is usually allowed to close those that run up to one year on residential units, the field man up to two years and a rental of \$2,000, the home office up to a period of three years and rental not exceeding \$3,000. All others must go to the finance committee.

REALTY HOLDINGS OF MAJOR LIFE INSURANCE COMPANIES

Name of Company	Real Estate Owned	Per Cent of Assets	Name of Company	Real Estate Owned	Per Cent of Assets
Acacia Mutual	\$5,437,225	9.77	Mass. Mutual	\$30,786,646	6.18
Aetna Life	33,799,302	7.26	Metropolitan Life	251,739,881	6.24
American Central	3,884,282	20.91	Minnesota Mutual	3,045,923	9.77
American National, Texas	8,095,569	15.36	Mutual Benefit	60,475,831	10.60
Bankers Life, Iowa	18,180,496	9.97	Mutual Life, New York	50,960,802	4.39
Berkshire Life	8,394,389	16.70	Mutual Trust, Ill.	4,523,505	13.77
California-Western States	6,913,578	16.60	National L. & A.	4,487,568	11.64
Central Life, Iowa	4,626,024	11.98	National Life, Vt.	18,571,410	11.69
Columbian National, Mass.	3,928,856	9.78	New England Mutual	17,456,554	5.67
Connecticut General	24,337,238	14.21	New York Life	103,130,238	4.61
Connecticut Mutual	16,786,944	6.84	Northwestern Mutual	45,966,026	4.51
Equitable, New York	136,312,707	8.22	Northwestern National	2,749,159	5.49
Equitable, Iowa	20,574,960	14.83	Pacific Mutual	14,728,936	8.30
Fidelity Mutual	16,901,162	14.89	Penn Mutual	48,888,651	7.47
Franklin Life	5,215,022	14.44	Phoenix Mutual	21,091,050	11.75
General American, Mo.	18,080,169	14.67	Provident Mutual	17,810,312	6.00
Great Southern	5,473,543	12.97	Prudential Insurance	238,669,534	8.05
Guardian Life	16,231,656	14.48	Reliance Life	786,206	.92
Home, New York	5,983,830	7.01	Southwestern Life	2,880,019	6.48
Jefferson Standard	8,049,165	13.90	State Life, Indiana	8,843,437	17.76
John Hancock	82,255,208	12.02	State Mutual	12,054,037	7.76
Kansas City Life	8,759,489	11.92	Travelers Insurance	52,394,373	7.24
Life Ins. Co. of Va.	7,703,313	8.29	Union Central	53,440,721	17.04
Lincoln National	14,086,068	12.14	Western & Southern	13,169,761	9.61



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On sales, the most generally accepted practice leaves approval in the hands of the chief executive officer when the price is in excess of the statement book value or reappraised value, whichever is higher. Conversely, any sale involving concession or loss goes to the committee with carefully prepared data and recommendations. Any unusual transaction, such as the demolition of improvements, or the sale of part of a property, or the creation of easements or party wall agreements would have to run the gamut to the finance committee.

Steadily the legal departments are making progress toward uniform construction contracts, leases, and sales contracts. But even here the company lawyers jealously preserve the prerogatives of passing on each transaction.

Management. The keystone of the structure is the property manager, the local real estate firm into whose hands the company, in the final analysis, puts control of the property. Direct operation by salaried employees is negligible in amount. The companies have simply availed themselves of facilities already existent.

In each city of over, let us say, 50,000 population, there had for years existed permanent real estate firms which earned a share of their income by handling downtown business parcels. In the larger cities, a few firms specialized in managing apartment houses. Because residences were not held primarily as investments, there had been little demand for any management concerns in this field.

The correspondents in setting up their management departments definitely imitated the existing real estate firms. To date, the *modus operandi* of the old and strong management concerns has influenced company operations more than the companies have influenced the management concerns.

Usually a contract is drawn between the company and the property manager, cancelable by either party upon 30 days' notice. Aside from outlining usual functions, it requires that the manager shall seek tax reductions and adjustments of insurance premiums, shall provide certain reports and opinions, and shall either list the property for sale with other brokers or split his commission with any outsider who happens to sell the property. Routine duties are taken for granted. Compensations for each function are set forth in detail. Strangely enough, there has not developed between the property managers and the companies a feeling of kinship of aims similar to that which prevails with the correspondent or the life insurance agent. Both parties consider the arrangement temporary. Neither one trades on the prestige of the relationship. In his heart, the property manager believes he would do better if more responsibility and authority were delegated to him; that is, if he were put on his honor to handle the property

for the company as he would handle it were it his own.

At time of acquisition the manager makes out a complete report on the property with recommendations for rehabilitation and rental, plus an appraisal to be used in determining sales price. He assumes possession for the company. He supervises the rehabilitation work either with or without an architect. Then he settles down to the operation of the property, securing tenants by advertising or solicitation, collecting rent, keeping constant check on physical maintenance of the property. He seeks tax assessment adjustments. He covers the property with proper insurance, pays all expenses.

In due course he is conferred with in regard to the price and later is told whether or not to push its sale. Usually, he seeks the cooperation of other brokers in the town in marketing this real estate. When the sale is made it is completed either in his office with the company's attorney present, or in the attorney's office with the property manager present.

Rehabilitation. To an involuntary owner of real estate such as the life insurance company, each job of rehabilitation must be justified by (a) promise of improved income during the expected period of ownership, (b) promise of attracting a purchaser by giving him assurance that in the early years of his ownership he will not have to make capital outlay, (c) preservation of physical structure from disintegration.

The companies probably average about 8 per cent of book value as rehabilitation expenditure. Because the time has not been ripe to rehabilitate all properties, expenditure has run to about 75 million dollars or 4 per cent of total real estate portfolios. Single residences involve about 25 per cent higher rehabilitation costs than do income properties, 9 per cent as against 6.8 per cent respectively. Though the difference is not so great, multi-family houses involve a larger percentage outlay than do business houses. The kind of job done to make a house rentable is often far less extensive than to make it salable, and many companies find it wise to contemplate in advance doing the two jobs several years apart. On the other hand, once business property has been properly rehabilitated, it is good for rent or sale for at least five years.

Materials. Immediately upon receiving authorization to proceed the property manager submits specifications to three contractors taken from a list of those who have been investigated or whose previous work has been satisfactory. If the job is big enough a local architect or the home office architect may draw specifications. With the run-of-the-mine stuff the manager and the field man draw them up.

(Continued on page 216)

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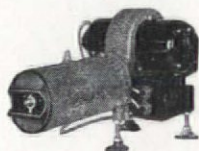
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LIFE COMPANY REALTY

(Continued from page 214)

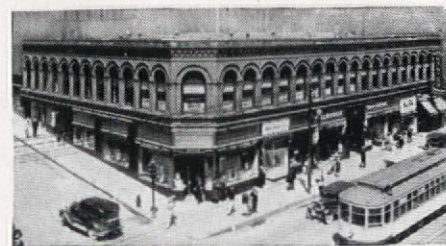
Many small residences can best be handled on a cost plus basis. Usually a manager will have one or two firms that regularly take care of a volume of this work. Confidence is built up between the manager and these contractors. The cost plus basis has proved best where the job calls for a long list of petty items, allowing greater flexibility as the work progresses.

Regret is occasionally expressed among life insurance men that in the early days of property acquisition no record was kept of materials used. Evidence of satisfactory performance would help now in current purchases. The only attempt that was made at issuing a preferred list of materials incorporated the idea of giving a choice of two or three standard trade name articles for each item. However, this list was not tied in with results; so as far as material purchases go the knowledge of them is locked up in the practical horse sense of the field men and property managers who plan each job. It having been found that a large share of rehabilitation consisted of redecorating, calling for a multitude of minor purchases in small quantities, probably any study on the subject would have been too much of a task.

An interesting experiment was tried by one company which made a contract with a large national construction firm for the purpose of securing analysis, plans and recommendation. There was much logic in favor of the move, and if it had been made three years later, in a rising market, the results might have been different. As it was, too much emphasis was placed on the structure itself and not enough on its rentability. Accustomed to large scale construction jobs of a comprehensive nature, such a firm could hardly be expected to be satisfied with economical and stopgap repairs. They would argue that a rebuilt structure would create tenants while the property manager contended that revival of business and demand on the part of tenants should create the need for doing over the building.

The cardinal policy on rehabilitation is this: The rental and sales market must justify the work being done. The companies are willing to do a job sufficient to bring in immediate income, knowing that later they may have to do a more thorough job before the property is sold. They are inclined to follow the advice of their managers and field men, as opposed to engineering services, or large contracting firms. The companies are buying locally by preference. They are paying the going rate for materials and the going wage scales, with a feeling of assurance that keen competitive bidding between contractors gives them the best prices. It is safe to assume that the life companies have spent over \$75,000,000 on rehabilitation aside from

(Continued on page 218)



Phoenix Building, Duluth, Minn.

HEATING COST REDUCED AFTER MODERNIZATION

Webster Moderator System Helps
Phoenix Building, Duluth, To
Check Heating Faults

SERVES SEVEN RETAIL STORES

Duluth, Minn.—Heating modernization helped the Phoenix Building, in downtown Duluth, to reduce its heating steam consumption from 359 to 206 lbs. of steam per degree day.

Installation of the Webster Moderator System together with new concealed Webster System Radiators was completed during the 1933-34 heating season as an important part of a thoroughgoing program of property modernization.

In a typical month before modernization, the Phoenix Building required 559,800 lbs. of steam. With the Webster Moderator System, after correction for degree day differences, the building saved 194,000 lbs. of steam—a cash reduction of \$172 for a single month.

The heating modernization program is not solely responsible for these savings, but the owners credit the Webster Moderator System with a "very considerable portion of the reduction." Other factors include the lowering and insulation of ceilings on the second floor and a slight reduction in floor area.

In addition to the remarkable fuel savings, heating service is greatly improved. The new system is able to meet every heating need of a variety of tenants, by careful control of steam circulation.

Regardless of the severity of the weather, the entire building heats evenly and rapidly. The warm-up period has been considerably shortened.

"The Webster System has given us everything that we expected of it and more too," says H. L. George, representing the Massachusetts Real Estate Co., owners of the building. "There is absolutely no comparison in tenant satisfaction."



Outdoor Thermostat which provides "Control-by-the-Weather."

If you are interested in (1) improved heating service and (2) lower heating cost in your building, address
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Pioneers of the Vacuum System of
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from Doors to Murals



Architect *Kenneth C. Welch*, Mural Artist *Ivor Johns*, assisted by *Baldwin Studios*
Entrance and main lounge of *The Rubber Room*, *Portage Hotel*, *Akron, Ohio*

BEAUTIFUL, but not bizarre, rich but not rococo, the unique new Rubber Room in the Portage Hotel, Akron, Ohio, strikingly illustrates the great possibilities of rubber in modern interior design and decoration.

As its name implies it is finished in rubber from floor to chandeliers—the imposing entrance-way and doors, the attractive wainscoting, the glass-smooth table tops, bar top and facing, even the seven handsome Ivor Johns murals.

Rubber mosaics

These murals are a remarkable achievement. Cut in "jig-saw" pieces from various shades of Goodyear Wingfoot Flooring and a perfect reproduction in mosaic of the artist's original paintings, they demonstrate the unusual adaptability of this new product to any architectural treatment.



Impervious to dirt and wear

Goodyear Wingfoot Rubber Flooring is ideal for public gathering rooms, bars, restaurants, lobbies, corridors, home game rooms, foyers, kitchens, etc.—not only for floors, but wainscoting and other treatments—because it wears indefinitely without losing the richness of its colors. It is impervious to dirt; keeps spotless with an occasional damp wiping. And it is neither marred nor stained by alcohol, burning cigarettes, ink, acids, etc.

It comes in rolls like good linoleum, is laid in similar manner, and costs about the same. Made in a wide range of colors in two-tone combinations, with border strips adaptable to over 100,000 different designs. For complete information, write Goodyear, Akron, Ohio, or Los Angeles, California.

Complete specification data in Sweet's Architectural Catalogue

THE GREATEST NAME IN RUBBER

GOODYEAR

LIFE COMPANY REALTY

(Continued from page 216)

current repairs. Much more has yet to be spent.

Rental. From the standpoint of reserves, calculation of premium rates and life insurance in general, the most important phase of real estate holdings is the current net income. Both gross and net have shown a rising trend in the past eighteen months, the rise on a mixed portfolio being fully as much as 18 per cent on the gross and 22 per cent on the net, with continued favorable trend. Uncollected rent is very low, probably not more than 3 per cent of the annual gross rent, indicating a firm collection policy. Vacancy is now so small as to be insignificant. It must be remarked that there is always enough property just acquired and in process of rehabilitation to give a false impression of vacancy and to affect adversely current net income.

With minor exceptions, the companies refused to enter into long-term leases except with a few larger stores and then on a basis of a percentage of gross sales with minimum guarantee. A few long-term leases are now being made, and, surprisingly enough, a given portion of these are on very poor properties where there is little prospect of sale and it seems best to

be assured of some return. As a whole, however, property managers do not favor leasing at this level.

Companies find that the property managers are anxious to increase rents, as their compensation comes from a fixed percentage of gross income, and the more costly it becomes to rent a house the more readily tenants will want to buy. It is even more apparent to the property manager than it is to the company that local speculators and investors will not come into the market for income property until net income has been demonstrated, and it is in that ultimate sales commission that the manager's profit lies.

Because of the unusual financial strength of life insurance companies, they would be excellent targets for law suits. With this in mind a good deal more insurance coverage is carried by them than by private owners, such additional lines being steam boiler, plate glass, liability, compensation, etc.

Taxes are much more of a drain on gross income than one would suspect. They will come close to amounting to 1.9 per cent of the book value, and to 26 per cent of the gross income. Everything considered, there has been a very slight reduction in assessment, despite evidence in the form of foreclosure that the old values are no longer there. It is enough to say that with in-

surance costs running 8 to 9 per cent of the gross income and taxes 26 per cent, there will have to be a healthy rise in rents to bring the net income over 4 or 5 per cent.

Management is a third notable item of expense, holding slightly over 5 per cent of gross income. To this should be added an administrative cost that could vary from 3 per cent with large companies which have large-sized parcels to as much as 6 per cent with small companies or those with small residence portfolios.

Sale. The year 1935 will show sales of real estate by all life companies of approximately 50 million dollars. This will run perhaps 17 per cent of acquisitions during the year. The market for single residences has been improving steadily while that for small apartments is next in line, with larger apartments and business property lagging.

By and large, the companies have followed the practice of simply waiting for offers on their houses, though they all try to unload the Class "C" or patently inferior houses. A majority by number tell their property manager what the book value is, and he in turn may, at his option, advertise the house or list it with other brokers with whom he may or may not

(Continued on page 220)

IT'S YOURS FOR THE ASKING

This folder of facts on modern soap dispenser service

The DAYS of INDIFFERENT WASHROOM SERVICE ARE Gone!

Today's modern public washroom service doesn't make much of a big deal about soap. And that's because in the modern washroom, soap is no longer a luxury—it's a necessity. It's the one thing that's always there, always ready to use, always in the right place.

Good washroom service depends on something more than just soap. It depends on the way the soap is dispensed. It's the way the soap is dispensed that makes the difference between a good washroom and a bad one.

Soap Dispensers are the key to good washroom service. They are the one thing that's always there, always ready to use, always in the right place.

Each Soap Dispenser is a complete and ready-to-go unit. It's the one thing that's always there, always ready to use, always in the right place.

The days of the old-fashioned soap dispenser are gone. Today's modern soap dispenser is a complete and ready-to-go unit. It's the one thing that's always there, always ready to use, always in the right place.

The Soap Dispenser is the key to good washroom service. It's the one thing that's always there, always ready to use, always in the right place.

Each Soap Dispenser is a complete and ready-to-go unit. It's the one thing that's always there, always ready to use, always in the right place.



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IF you are interested in the designing, operation, or maintenance of office buildings, hotels, clubs, theaters, industrial plants, hospitals, or other institutions, you will find the same advantages of the new Ivory Dispenser service of careful consideration. It is equally suitable for new installations or for replacements. Quoting prices upon request.

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Street _____ State _____
City _____

The IVORY SOAP DISPENSER
delivers genuine Ivory Soap in fine, free-flowing flakes or granules.

This COUPON WILL BRING IT TO YOU



What proportion of the building dollar SHOULD YOU SPEND FOR *Floors?*

"WHAT does this floor mean to my client's future profits"... rather than "what does it cost per foot." That's the way to choose the floors for buildings you design. Old type floor systems are "taking the count" in the battle for longer profitable life which faces every new building that goes into construction.

Since floors form the only rentable areas of a building, since their facilities often make the difference between a building

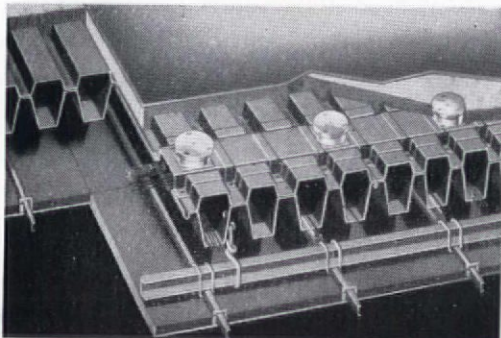
half-vacant and one fully leased, the small proportion of building money you spend for them vitally affects the success of your client's entire building investment. That's why they deserve your most careful consideration... and why you should spend enough of the building dollar to buy the right kind of floors.

First, of course, your buildings need floors that are structurally sound. But equally important, they need floors that anticipate the future, that provide for all the possible new uses of electrical apparatus, that make possible any number of additional electrical outlets without resorting to unsightly exposed wires or the expensive alternative of chiseling up

floors to install additional wire ducts.

The Robertson Steel Floor System provides exactly such a floor. It is impossible to find any other floor with comparable advantages. The Robertson Floor is in itself a comprehensive system of protected wire raceways, capable of carrying more wires than a building will ever need.

Besides greatly increasing a building's utility, The Robertson Floor saves steel, saves concrete, reduces accident and fire hazards, speeds building construction. It is fully protected against corrosion. In fact, it has too many advantages to enumerate on this page... but our brochure "New Life for Buildings" and our special technical bulletin will bring you a more complete story. Send for your free copies, H. H. Robertson Company, 2004 Grant Building, Pittsburgh, Penna.



THE ROBERTSON Steel Floor System is a super-strong steel floor which contains, in itself, a complete system of protected wire raceways. These raceways permit of such complete floor electrification that outlets can be placed every six inches over the floor area if desired

ROBERTSON STEEL FLOOR SYSTEM

LIFE COMPANY REALTY

(Continued from page 218)

have to split the commission. Variation of this program is to let the manager set an asking price at a certain percentage above the book value.

In contrast, a few companies have adopted this course: The book value and all figures arising from the previous mortgage loan are thrown into a dead file not available to the operating staff or manager. In a thoroughly realistic manner each residence is appraised at its current value by the field man and the manager, emphasis being laid on the status of that parcel in the real estate market. Thus is recognized the truth that the market determines the value rather than that the asset (as shown on company books) determines the market. At the same time, as the appraisal is made the property is graded "A," "B," or "C," according to age of improvements, type, neighborhood trend, earnings, etc. Made into lists, the material facts are then presented to the finance committee which can decide how the properties are to be listed for sale. We might assume that an average portfolio would run 40 per cent Class "A," 40 per cent Class "B," 20 per cent Class "C."

In most cases, the Class "C" properties are pushed on the market at whatever

they will bring, the sights being leveled at 10 per cent below the appraised value. The Class "B" properties may be listed at the appraised value, and the Class "A" properties at 10 per cent above. What happens, of course, is that the company aims to average out on a 10 per cent loss on Class "C" and a 10 per cent gain on Class "A."

Bona fide sales of income property to local investors are on the increase. It is interesting to note that these local buyers do not necessarily purchase what would appear from the accounting records and field reports to be the best properties. Many of them have worked themselves into a buying mood by criticising the costly operations of the life companies and by drawing comparisons with what they could do with the income.

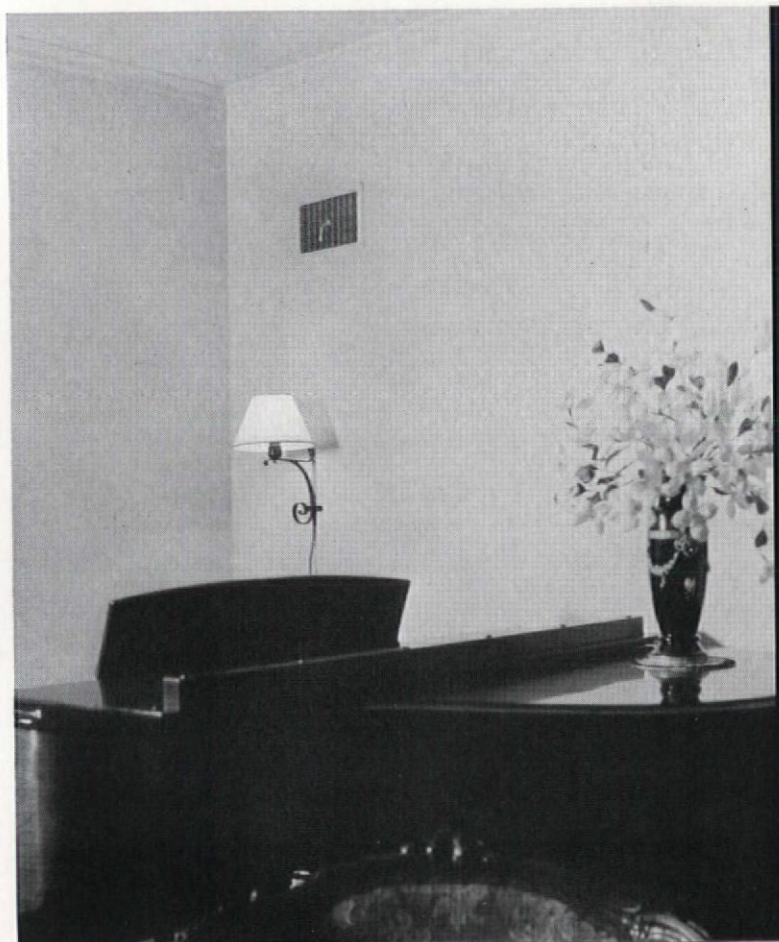
As a matter of practice, on the sale of income properties, the companies have regarded with favor sales where a portion of the down payment consisted of improvements that the new owner would make to the structure, and additions of furniture and equipment, the latter being included as security for the lien.

Most companies have preferred to sell with a land contract by which title vests with them until indebtedness is paid down to a certain amount. According to the old theory of law, this contract was not a

mortgage and thus offered the company most rapid and less costly repossession in event of default. Doubt is now cast on this theory, some States having held that difference in instrument does not change fundamental concept of mortgage. Further doubt accrues about the land contract as a vehicle hinging on the liability sustained by the company through its retention of title.

Both residences and income property are being sold on long term bases, often on a monthly payment plan covering interest, taxes, principal reductions, and insurance.

As a whole the companies are not pushing their real estate on the market, although the signs point to a change of heart in this respect. In principle, the Class "C" or inferior properties will be sold at less than book value. Extreme reluctance to sell the Class "A" properties prevails. The tendency is away from using book values for listings and toward using the reappraised value. One of these days the companies, deciding individually, may well set their minds to the job of marketing these holdings, and when that day comes technique will have been developed. It is safe to hazard a guess that one large company and a few of the very small ones are disposing of about 50 per cent of all that is being sold by the entire institution of life insurance.



- ASPIRATING
- DIFFUSING
- DIRECTIONAL

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GRILLES and REGISTERS

Engineered

AIR DISTRIBUTION OUTLETS



*New
Catalog
Just Out*

**BARBER-COLMAN COMPANY
ROCKFORD ILLINOIS**

An AIR CONDITIONING *planning service*



**Free
TO ARCHITECTS**

THOUSANDS of stores, cafes, restaurants, offices and theatres will install air conditioning equipment this summer. And many home owners will insist upon some form of temperature and humidity control.

No doubt you are being consulted right now regarding many complicated air conditioning problems.

Why not let the world's finest engineering and research talent help you with these problems? The General Electric organization has had more than 25 years of experience in refrigeration and air conditioning.

Help From Three Sources

There are three ways in which General Electric can serve you:

First: You will find a comprehensive section on G-E Air Conditioning equipment in Sweet's Catalog. This gives the newest developments in air conditioning.

Second: There is a General Electric engineer in your neighborhood who is

GENERAL ELECTRIC FURNISHES

Summer Cooling
Year-Round Air Conditioning
Air Circulation and Ventilation
Automatic Heating of Service Water
Automatic Heating of Buildings
Summer or Year-Round Air Conditioning for Single Room or Suite of Rooms.

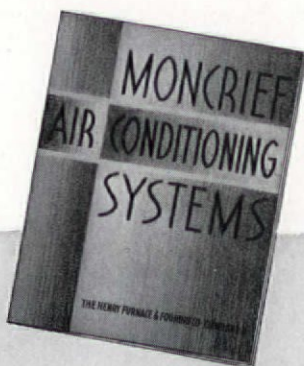
All equipment designed, built and guaranteed by the General Electric Co.

thoroughly experienced in all types of air conditioning installations. He will be glad to work with you without cost or obligation. Just call the local G-E dealer of Air Conditioning equipment.

Third: If you run across complicated installations that require special "hand-tailored" work, we suggest that you write to factory headquarters.

Please feel free to consult with our staff at all times. Address the General Electric Company, Air Conditioning Dept., Div. 12356, Bloomfield, New Jersey.

GENERAL  ELECTRIC
AIR CONDITIONING



Send for this
folder of

MONCRIEF ARISTOCRAT Winter AIR CONDITIONING SYSTEMS

for Coal . . . Gas . . . or Oil

• Arranged with data sheets for your files.

You can fully depend on Moncrief Air Conditioning Systems for efficiency, economy, convenience and long trouble-free operation. Designed and built by a firm specializing for thirty-eight years in heating equipment for homes, Moncrief systems include every improvement which heating engineering has found desirable and practical.

Special Moncrief features are producing new high standards of efficiency and economy. One of these is the Moncrief Patented Wind Box, which distributes circulating air uniformly over the surfaces of the heating unit.

Aristocrat systems are specially built to burn either gas, oil or coal—hand or stoker fired. They are strictly modern in design, substantially built and beautifully finished.

Send for folder and data sheets giving complete information.

**THE HENRY
FURNACE & FOUNDRY CO.**

3485 E. 49th ST., CLEVELAND, OHIO

Our Engineering Department is maintained to cooperate with architects and builders.

THE HENRY FURNACE & FOUNDRY CO.

3485 E. 49th Street, Cleveland, Ohio

Please send me folder and data sheets on Moncrief Air Conditioning Systems.

Name _____

Street _____

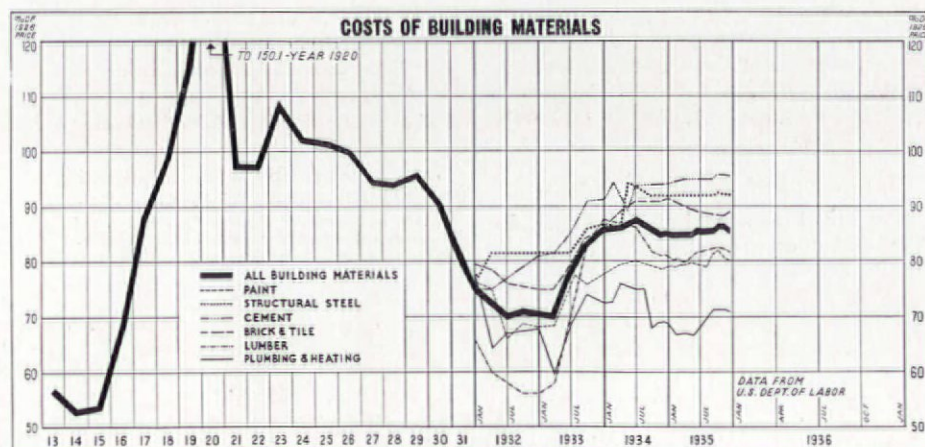
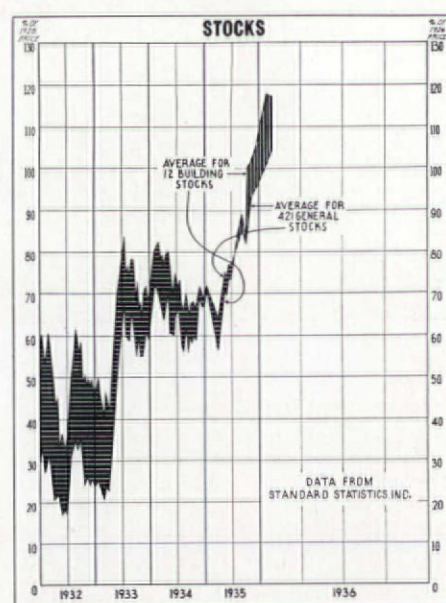
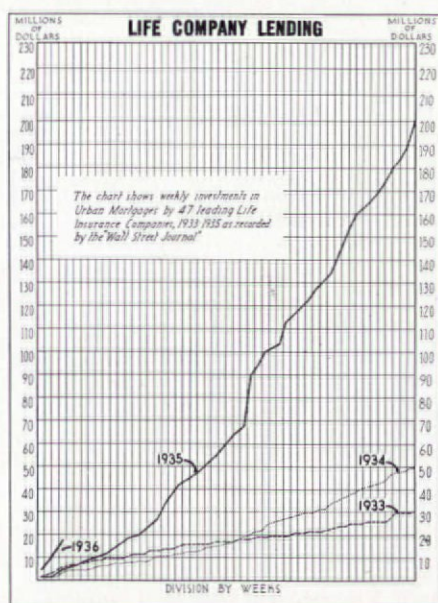
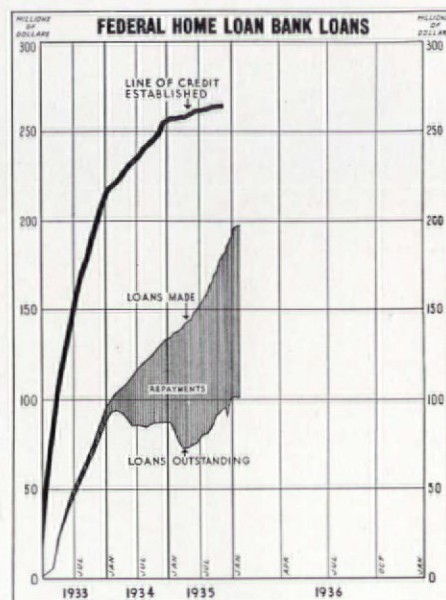
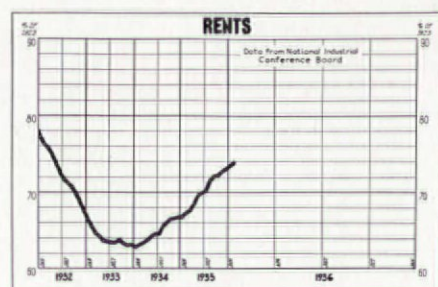
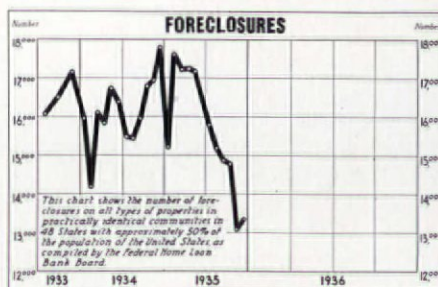
City _____

State _____

LENDING CONTINUES BRISK

as foreclosures drop and rents rise.

Stock prices climb to nearly 120 per cent of 1926.



On the job **7** years in Burnett Court Apartments

ELECTROLUX PROVES

LOW MAINTENANCE AND LOW OPERATING COST

T. J. BURNETT, Owner

Tel. Independence 3-0178

BURNETT, Manager

"Flushing's Most Convenient Apartment"
BURNETT COURT
136-05 SANFORD AVE., COR. MAIN ST.
FLUSHING, NEW YORK
BUSINESS OFFICE: APARTMENT 1-9

January 6

Consolidated Gas Co;
4 Irving Place,
New York, N.Y.

Gentlemen:

I am pleased to enclose herewith my check for Two Hundred Six (\$206.) Dollars representing payment in full for maintenance of Electrolux refrigerators for the coming year. Inasmuch as this is the entire fixed charge for 103 refrigerators, you can believe me when I say that I have the highest praise for the Gas Refrigerator. As you may remember, the 103 Electrolux refrigerators were installed in Burnett Court, which incidentally is one of the largest and most completely equipped apartment houses in Flushing, seven years ago; and they still continue to be as efficient and economical as the day they were installed.

Originally Electrolux was chosen because its simpler operation (no moving parts) and gas company service, promised more in lasting satisfactory service and low maintenance cost. This promise has certainly been fulfilled. I have already mentioned the remarkable performance of every one of our refrigerators, and I feel that it is only right to thank you and congratulate you for your company's service during these seven years. It has always been prompt and efficient and rendered in a very courteous manner by its employees.

Today I am more convinced than ever that Electrolux is the most practical refrigerator for any building owner or operator to install. I might add that from a tenant's viewpoint as well, Electrolux is preferable because of its silence and extremely low operating cost.

Very truly yours,

T. J. Burnett
T. J. Burnett, Owner
Burnett Court

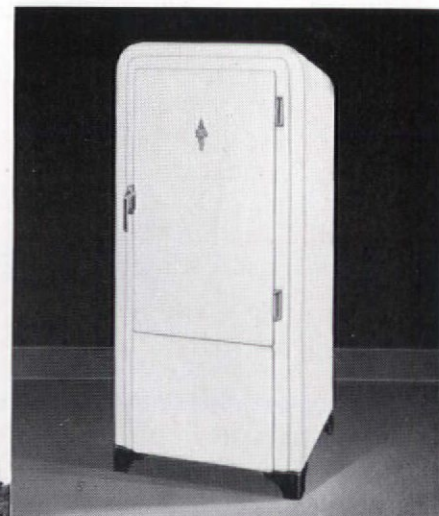
tjb/r



Tenants in Burnett Court Apartments are enthusiastic about the low operating cost and permanent silence of Electrolux.

Mr. Burnett's maintenance cost for 103 Electrolux which are seven years old is only two hundred and six dollars, or two dollars apiece, a year.

WHETHER you're choosing refrigerators as original equipment or to replace old equipment, the experience of Mr. Burnett, of 136-05 Sanford Ave., Flushing, is important to you. *First*, because it answers the vital question every refrigerator buyer wants to know: "How can I make sure that the refrigerator I install today will be just as efficient and economical in 1943?" *Second*, because it is typical of the experience of Electrolux owners the country over. For consider this—the total maintenance cost for the 103 Electrolux that were installed in 1929 is today only two hundred and six dollars, or two dollars apiece, a year. You'll find that the economy and dependable gas company service which Electrolux offers are advantages no other refrigerator, at any price, can match. See your local gas company for complete information about Electrolux. Servel, Inc., Electrolux Refrigerator Sales Division, Evansville, Indiana.



New Air-Cooled **ELECTROLUX**
THE SERVEL Gas Refrigerator



Spelling Comfort

GIMCO ROCK WOOL HOUSE INSULATION
brings year 'round comfort to the home

Full wall - thick, fluffy, fire - proof Gimco House Insulation will aid in making homes more comfortable the year around. Winter-time "hard-to-heat" north rooms—cold drafty floors (where embryo architects play at building)—and summer-time "bake-oven" bed rooms should be eliminated from home specifications.

Architects specify Gimco Rock Wool because it is outstanding in efficiency and quality. For over a quarter of a century Gimco engineers have concentrated exclusively upon producing the finest insulation that skill and modern manufacturing methods can fabricate. Our sole aim is that the name Gimco shall typify the ultimate in home insulation.

Write Gimco into your specifications and you write "maximum home comfort."

Gimco Sealal Bats embody the most desirable features that can be demanded in home insulation. They are carefully felted to the proper density, constructed with just the correct rigidity and stand up excellently in handling. Sealal provides a uniform continuity of insulation.

The same high quality that characterizes Gimco Sealal is built into Gimco Granulated Rock Wool (for application by pneumatic method) by the same painstaking processes. Gimco Granulated is free from "shot" and may be easily, efficiently applied to almost any construction.

Have you received complete data on these leading insulators? Write today for samples of Gimco Rock Wool.



GENERAL INSULATING & MFG. CO. Alexandria, Ind.

Please send samples of Gimco Rock Wool, also full information.

Name

Address

City State

**GENERAL INSULATING
& MFG. CO., Alexandria, Ind.**
**WORLD'S LARGEST EXCLUSIVE MANU-
FACTURERS of ROCK WOOL PRODUCTS**

FORUM OF EVENTS

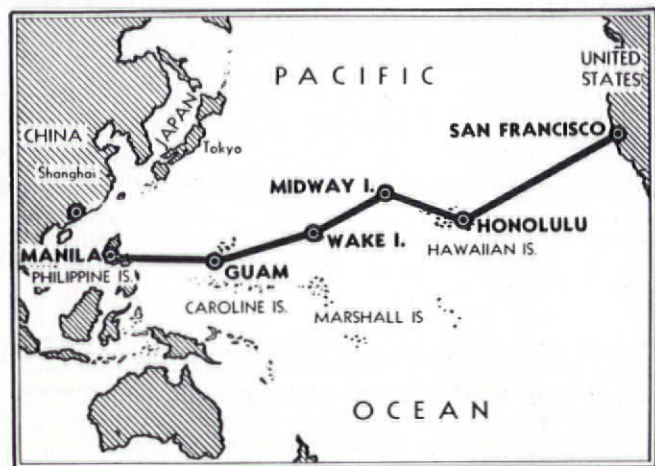
(Continued from page 19)

within the means of workers and farmers, the pressure of public opinion may force the Government to enter this field on a very wide scale."

Replies the Purdue Housing Research Project Report: "(our) figures . . . indicate that the national housing problem is as yet unsolved. They indicate that the present home building drive sponsored by the present administration in Washington cannot succeed . . ."

PREFABS FOR PARADISE

IN THE South Seas, as most any beachcomber knows, the hold of a trading vessel can turn up with almost anything from a spool of ticker tape to a case of old Napoleon. But last month even these somniferous gents had their eyes opened when the rusty little *North Haven* hove to off the beach at Midway Island and dropped anchor. Included in her cargo manifest were three unassembled hotels, complete in every detail. One was for discharge there, the others earmarked for Wake Island and Guam, 1,500 miles and more Southwest.



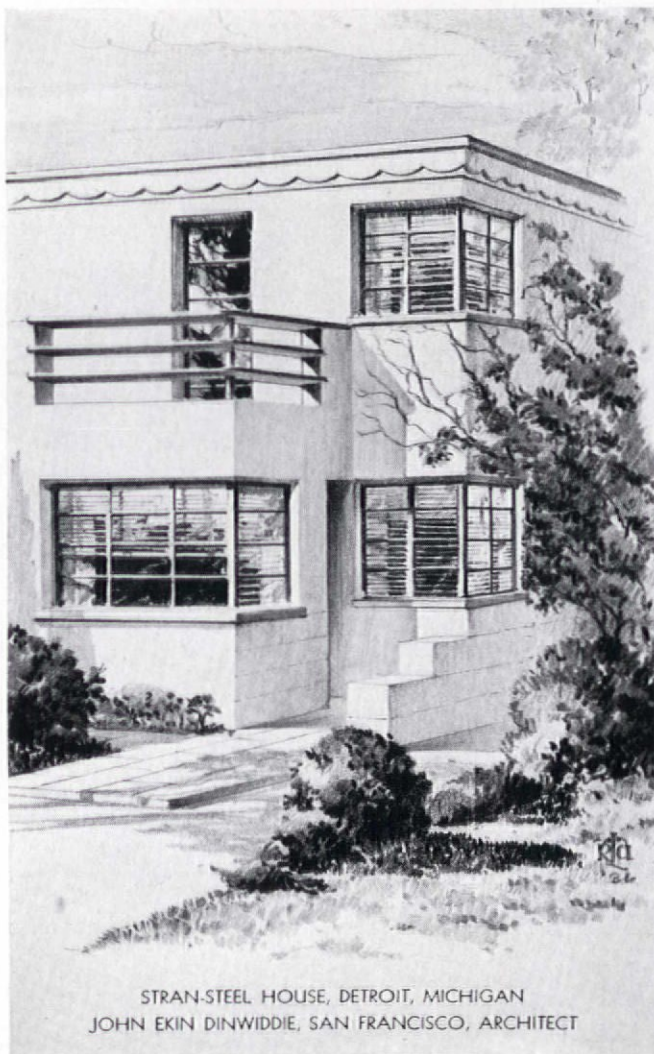
ROUTE OF THE NORTH HAVEN

Optimistic over prospective passenger bookings on their 8,900 mile air route to the Orient, the *North Haven* was under charter to Pan American Airways to blaze the trail for future sightseers. It was her job to drop off these hotels at the strategically located rest-stops. Then, when the regular mail and passenger service got under way early in May, the itinerant stop-overs would find sanctuary for their creature comforts. In addition, Pan America hoped that the imported "luxuries of home" might even tempt a few of the more aggressive halliburtons to devote an odd day or two in ethnological research between hops.

Designed by Pan American Engineer Andrew Lewis, the hotels were esthetically groomed by New York's Delano & Aldrich. They were built in the construction yards of Prefabricated Construction Company, Inc., Seattle, Washington. Before final shipment to the nether outposts, they were dress rehearsed into shape. In disassembling, each unit was carefully checked and located.

Of the same Y-shape design, with two wings springing out from a central circular lobby, each hotel will be able to accommodate a maximum of 48 guests. Each room will be approximately 12 x 17 ft. including plumbing. Should prosperity ever deluge capacity, additional rooms can be added to either wing. Kitchen and functional parts of the hotels are placed in the stub end. The hotels are oriented so that

(Continued on page 42)



STRAN-STEEL HOUSE, DETROIT, MICHIGAN
JOHN EKIN DINWIDDIE, SAN FRANCISCO, ARCHITECT

For their corner windows in Modern houses, many architects are using Fenestra Steel Casements joined by corner mullions. Vertical muntins are omitted, for horizontal effects . . . The complete Fenestra Window includes the Fenestra Bronze-Mesh Screen, and the new Fenestra Air Conditioning Window. Either of these units is easily and quickly attached to the Casement, on the inside, according to the season. Either permits complete operation of Casement (opening, closing and locking of swing leaves) without touching the inner unit. Fenestra also offers a Steel Casing, a product of special appeal to those interested in economical installation. Write for literature. Detroit Steel Products Co., 2250 East Grand Boulevard, Detroit, Michigan.

Fenestra

Even the DUCHESS was thrilled



Architects recognize Patrician as the "something new—something practical" for home hardware.

The *NEW* is the color-plastic knob material in a "setting" of standard metal finishes. You may choose black or ivory, delicate pastel tones—even Chinese red for a bright touch—and any color unit can be easily changed to suit new decorative schemes.

The *PRACTICAL* is the lasting resistance of Patrician knob material to tarnish from perspiration as well as other unsightly stains.

Consider Patrician—available in a complete line of sectional or pendant trim in period or modern designs. See Sweet's Architectural Catalogs.



Patrician Sectional Set No. 3652 with solid brass face and French shank, cast brass rose and key plate, lock No. 3126. Solid Plastic may be in ivory, black or other suitable tints or colors, which are interchangeable.

Patrician HARDWARE

Exclusively by

LOCKWOOD HARDWARE MFG. CO.
DIVISION OF INDEPENDENT
LOCK COMPANY **FITCHBURG, MASS.**

FORUM OF EVENTS

(Continued from page 41)

prevailing winds will sweep K. O. (kitchen odor) out to sea.

Aboard the *North Haven* was a construction crew of 85 men under the direction of Frank McKenzie. Working quietly and efficiently, they quickly sank the creosoted sub-structure foundation posts. The upper parts were impregnated with zinc sulphide to discourage vermin. The panels, averaging 4 x 10, had wooden battens to which were glued five-ply sheaths. They were fitted together like backstage props. Across the roof foundation was stretched deck canvas. Much



MIDWAY'S LEADING HOTEL

swankier than the conventional corrugated iron, the canvas roof had the same functional duty—catching raindrops for drinking supply.

After unloading Midway's share of bridge lamps, solar heating systems, electric toasters, beds, telephones, generators and hotel registers, the *North Haven* steamed for Wake Island on February 12—with apparently enough stray pieces to complete the others.

LAND'S POLAROID

KIDS' games usually go out with boy scout uniforms. Not so with 25-year-old Eric H. Land, former Harvard physics student. He still finds much fascination in such games as "I can see you and you can't see me" and "last look." Last month he played them before an audience of scientists and newspaper men. Visibly impressed, they played too.

No silk hat artist, physicist Land had a simple explanation for his hocus pocus. Theorizing that light rays could be untangled and regimented in a single given plane, he had constructed an optical comb by suspending in a cellulose-acetate matrix, billions of minute synthetic nicol prisms (or crystals) oriented in the same direction. The result was a glass-like substance he called Polaroid. After the tests, scientists agreed that young Mr. Land had solved the problem that had, for the last century, literally thumbed its nose at every physicist working with light.

Simple and inexpensive to produce, Polaroid already offers interesting commercial possibilities. One way glass for apartment house windows will be Polaroid's architectural contribution. Objects between two sheets of Polaroid are as clearly visible as through ordinary window glass. But the sheets can be so set that through the first the second appears to be a black screen. Open windows void the privacy however.

An important application of this principle of cutting out light transference through two layers of Polaroid will remove the glare from onrushing automobile headlights. With Polaroid behind the lenses of all headlights, and a sheet in the windshield (or spectacles), all glare from even the most powerful headlights is removed. All objects within range of one's own headlights are completely visible, even to easy reading of the approaching license plates.

(Continued on page 44)

**Special Rates give
extra advantages
now to**

HEATING with GAS



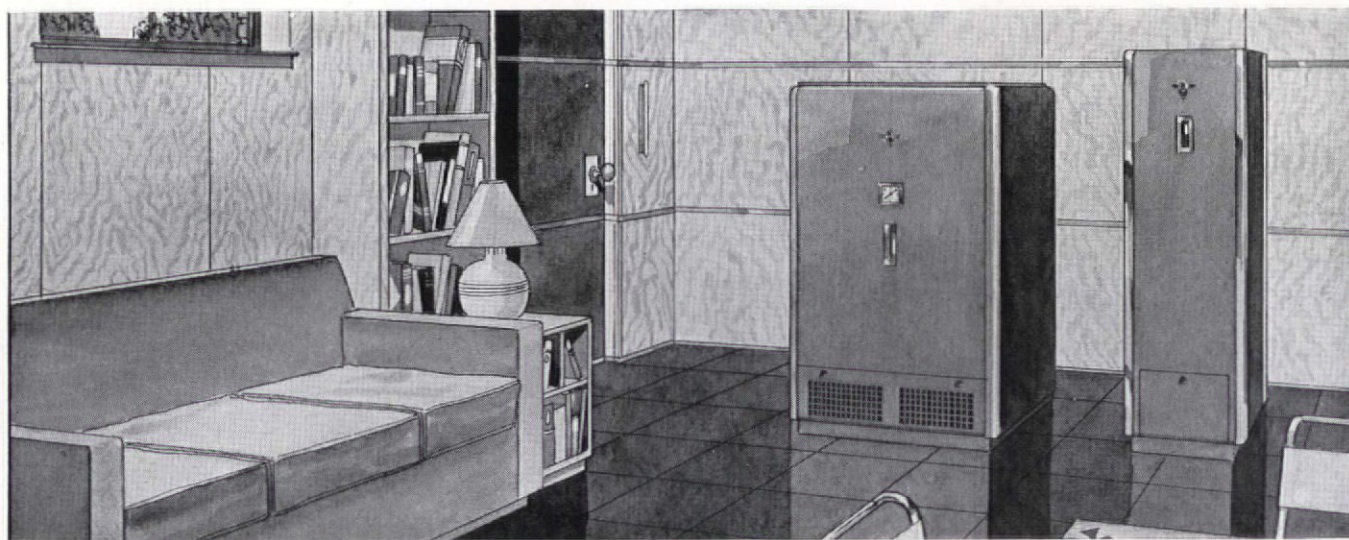
REDUCED RATES in many localities today make heating with gas especially desirable. For gas has advantages that no other fuel can offer. The completely automatic features, the cleanliness, the economy and the beauty of the "Empire" Ideal Gas Boiler bring still other advantages. Including the assurance of a basement room unmarred by pipes emerging from the boiler. All piping, even draft hood and header, is inside or behind the lustrous jacket of the "Empire" Ideal.

Clean gas heat and automatic hot water — built in and built to stay — are features worth considering for the homes you plan. AGP equipment for heating and hot water is efficient, dependable and reasonably priced. The line includes a size and model for every domestic and industrial use. The water heater illustrated with the "Empire" is in a new matching jacket, available soon . . . Get the facts on the cost of heating with gas from your local gas company. And write today for complete information on the AGP line.

AMERICAN GAS PRODUCTS CORPORATION

DIVISION OF AMERICAN RADIATOR COMPANY

40 WEST 40TH STREET • NEW YORK, N. Y.



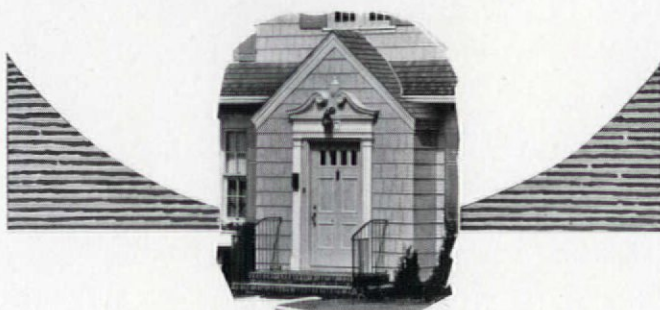
THE NEW "EMPIRE" IDEAL BY AGP

The World's Most Beautiful Gas Boiler

*Beauty
and Economy*

Combine In

WEATHERBEST STAINED SHINGLES AND SHINGLE STAINS For Sidewalls and Roofs



FOR NEW HOMES

TO QUOTE from a well known architect who has distinguished himself in the residential field—"the present home buyer talks beauty and structural quality but still thinks economy".

Genuine Red Cedar Shingles and hand-rived Shakes, stained by the *Weatherbest* exclusive process, enable the architect to combine essential beauty and stability with economy. A selection of color gravure photos showing examples of the work of a group of architects—with *Weatherbest* Stained Shingles used to achieve beauty, structural quality and economy—will be sent on request.

FOR MODERNIZATION



Showing application of *Weatherbest* Red Cedar Stained Shingles over old clapboards without removing old siding. This treatment is equally practical over stucco or old shingles.

Where modernization of residential properties is desirable—with a minimum of structural changes—*Weatherbest* Stained Shingles have been particularly successful for sidewalls and roofs. Their applications make a complete transformation. They are adaptable to practically any type of architectural design; they can be easily applied to any sidewall; they cost little more than a good painting job; their added insulation reduces heating costs; and their enduring beauty lasts over many years. *Send for complete information.*



WEATHERBEST CORP., 2901 Main St., No. Tonawanda, N.Y.

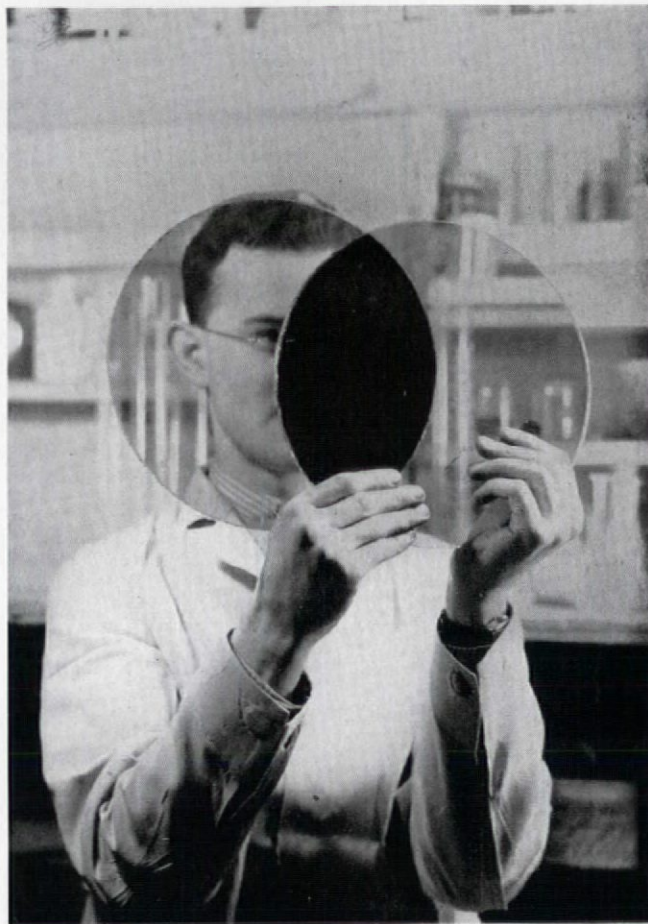
Send photogravures and literature showing *Weatherbest* new homes and modernization examples—without obligation.

Name _____
Address _____

FORUM OF EVENTS

(Continued from page 42)

Polarized light has been used before in detecting strains in materials or structures subject to stresses. But because of the prohibitive cost of apparatus, little was ever done beyond laboratory experiments. The advent of Polaroid will



Roy Jacoby

PHYSICIST LAND

immediately open up this important field and enable engineers to detect defects and stresses in all forms of construction from bridges to baby bottles.

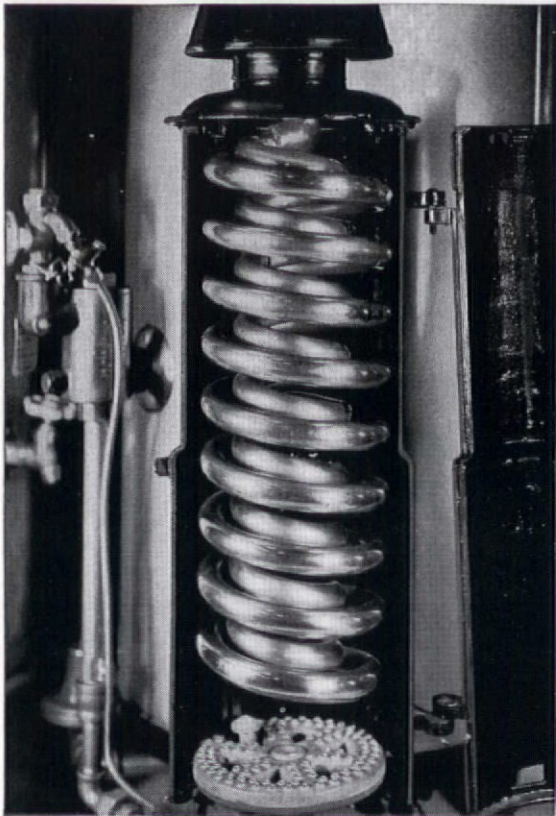
Polaroid's most popular use will be in the still adolescent three-dimensional motion picture projectors. Although wearing Polaroid glasses, necessary to complete the illusion, was tiring to the eyes at first, the startling effects that brought objects right off the screen into touching distance were well worth the strain. Newspapermen present at the demonstration were loud in their praise as they thought of Garbo at some future time falling into their laps.

PALACE OF THE PRESIDENTS

SOME U. S. Presidents can be found elaborately commemorated in all parts of the world (Avenue Woodrow Wilson, Paris; Equestrian George Washington, Buenos Aires; St. Gauden's Abraham Lincoln, London); others in local communities (school buildings, charitable hospitals, local chapters). The great majority however rate no splendiferous sepulchres, are scarcely found outside of history school books; then only on nameplates of Dollar Line boats.

To perpetuate these forgotten men of the White House (Martin Van Buren, Millard Fillmore, Harrison, I, etc.) is the plan of Dr. Gertrude Duncan, New York civic worker, and

(Continued on page 46)



What Copper means in Plumbing Pitch-and-Felt means in Flat Roofs

If plumbing fails, the damage is often much more than the cost of new plumbing—walls and ceilings may have to be torn out, floors taken up, plastering replaced.

If a roof fails, a wood deck may decay, a concrete deck disintegrate, walls may be damaged, valuable machinery and stocks may be injured—and the repair job may be many times the price of a new roof.

That is why it is just as important to specify pitch-and-felt for flat roofs, as it is to specify copper in plumbing. The leaking roof is often a silent and stealthy destroyer.

Pitch-and-felt roofs generally last fully 20 years and in many cases have served more than 40 years.

★ ★ ★ ★

Specify Koppers Coal Tar Pitch and Tar-Saturated Felt on all Flat Decks.

All the Koppers specifications are in the 1936 Sweet's.

KOPPERS PRODUCTS COMPANY
Koppers Building Pittsburgh, Pa.



Other Koppers Products

Koppers Creosote . . . Tar Base Paints . . . Tarmac for Roads, Streets, etc.

KOPPERS COAL TAR PITCH

KOPPERS TAR-SATURATED FELT

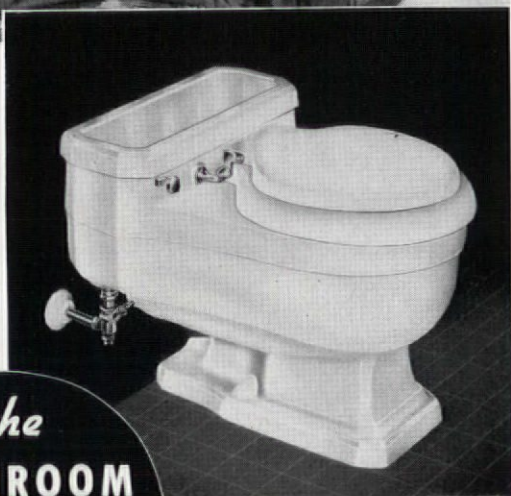
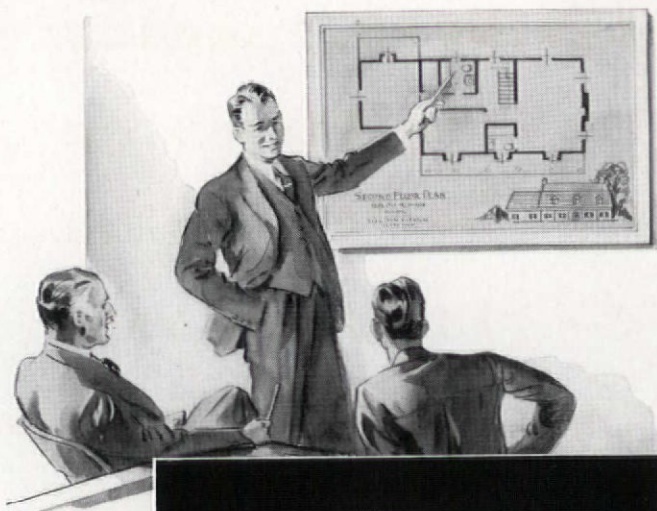
KOPPERS TAR-SATURATED FABRIC

Koppers Products Company, Pittsburgh, Pa. AF 2
I am interested in maintenance-free, long-life roofing. Send me further information.

Your Name.....

Firm Name.....

Address.....



PATENTED PATENTS PENDING

the
BATHROOM
sells a lot of
HOMES

The bathroom is becoming an increasing point of interest to prospective home builders. In your planning, take advantage of the wide variety of bathroom layouts that are possible with the T/N, the first and finest one-piece water closet. The T/N does not have to be attached to the wall, of course, and installations are possible in corners, beneath windows, even under staircases. But T/N features do not stop here. Among the many others are included quiet operation, non-overflow prevention, atmospherically vented to prevent any possible water supply contamination, and a special regulating stop to permit volume regulation of water under all pressures. Available in a wide array of colors, the T/N will fit into the budget of the most modest house plan.

take
advantage of
T/N's
features

T/N ONE-PIECE WATER CLOSET

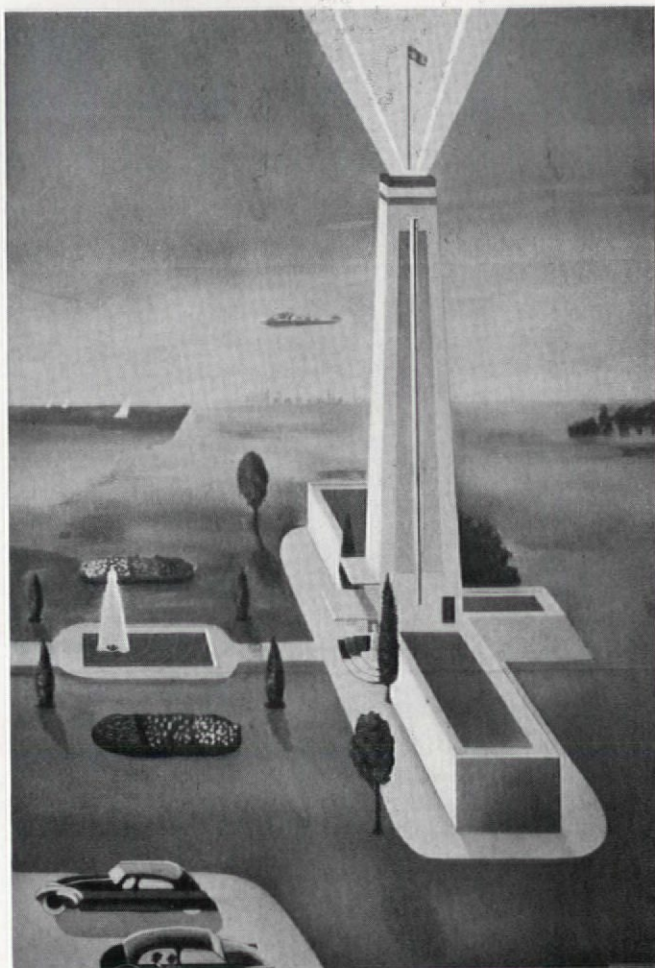
W. A. CASE & SON MANUFACTURING COMPANY Founded 1853
Dept. E-36, 31 Main Street, Buffalo, N. Y.

Please send me complete descriptive literature and helpful data on the
T/N One-Piece Water Closet, both for REMODELING and NEW HOMES.

FORUM OF EVENTS

(Continued from page 44)

Miss Elizabeth Hall, Hunter College English teacher. An elaborate tower to symbolize the veneration in which U. S. citizens hold the great office to which, every four years, they elect one of their own number, the monument would be the



PROPOSED PRESIDENTIAL PALACE

first of its kind altruistically and equally to honor all past Presidents, regardless of their records.

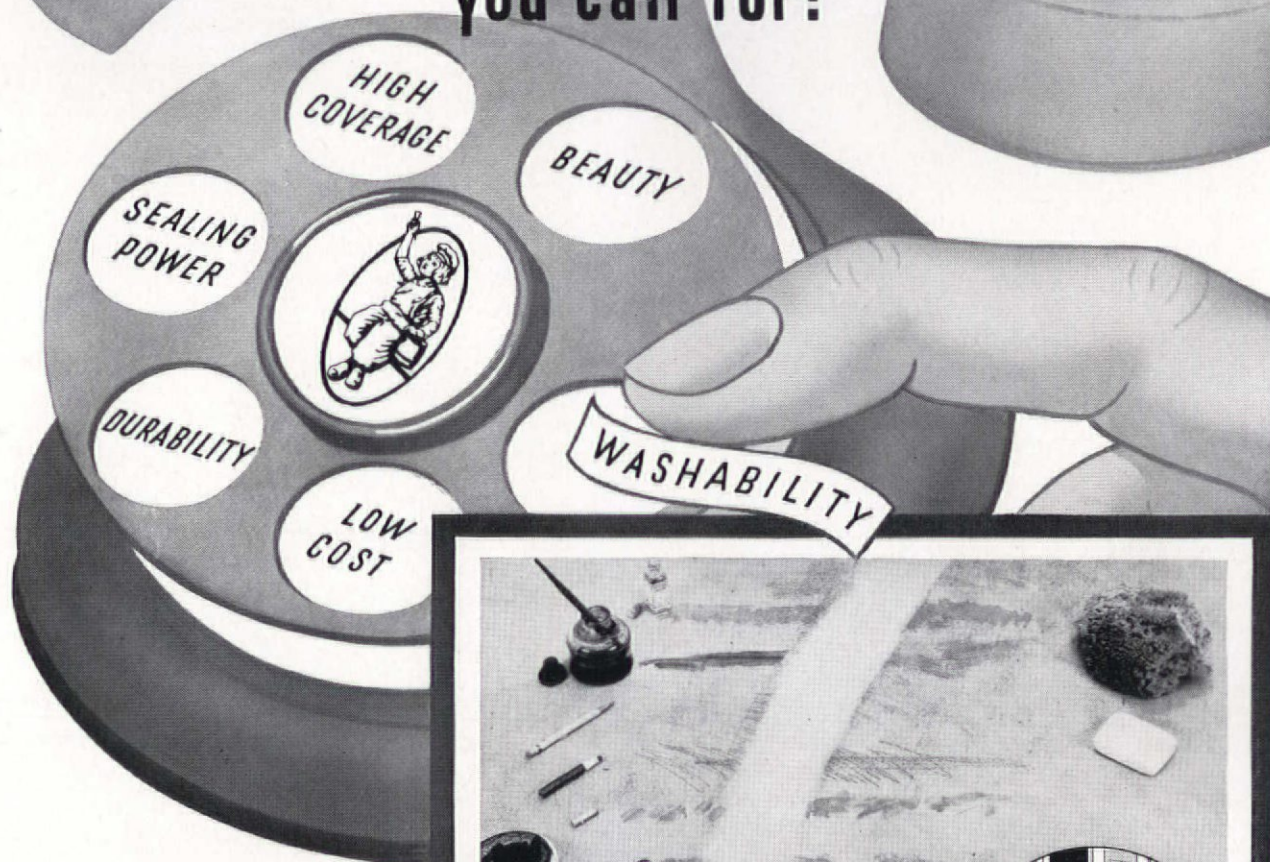
The design (see cut) drawn by Hilaire Hiler, recently returned from France and Paris' Exposition, includes a magnificent central Hall of the Presidents with the walls appropriately decorated with murals depicting historical Presidential events in each administration. Other buildings would house relics of the different Presidents, a restaurant, and a broadcasting station.

The main feature proposed is a huge memorial tower rising 1,000 ft. above the foundation buildings. Of ferro concrete, steel and a thick bluish glass, it will be topped off with a million candle-powered Sperry Gyroscope searchlight capable of throwing up a 16,000-ft. vertical guide beam for aviators. Horizontal, subordinate beams will guide neighborhood navigation. To attract tourists, there will be a large observation room with a sweeping view of Long Island Sound. For the scientifically curious, an anemometer installed to determine wind direction and velocity.

In adopting the proposed memorial, the Committee moved to erect the tower on a piece of land graciously offered by Manhattan Lawyer Daniel W. Blumenthal, adjoining the Flushing swamp on which the 1939 World's Fair will rise; to

(Continued on page 48)

A Flat Paint that has *Everything* you call for!



● Talk about a flat paint! Here's one made right to your own specifications. Made with Dutch Boy White-Lead and a new companion product, Dutch Boy Lead Mixing Oil.

It's a flat paint that washes perfectly clean after almost unbelievable abuse. We submit in evidence the unretouched photo at the right. This panel was first nailed to the floor outside an office door. For a week a stream of heel and toe traffic poured over it...hundreds of scuffing, scratching, grinding shoes.

Then we smeared it with grease. Stained it with mercurochrome and ink. Streaked it with pencil, crayon and lipstick. Daubed it with shoe blacking.

Soap and water washed a swath right through the middle of it as clean as a



This test panel is a 2' x 3' piece of wallboard, painted with Dutch Boy White-Lead and Lead Mixing Oil. Horizontal streaks show how it was defaced with various enemies of interior paint. Swath shows marks completely removed by washing with soap and water.



Scores of People Even Walked on this Test Panel

hound's tooth... and without damage to the paint! (See photograph above.)

Paint that survives a test like this must also be *durable*. Further proof of its durability is its use for sealing and finishing exterior concrete, stucco and brick. Used inside on plaster or other porous surfaces it stops suction and hides fire-cracks.

It has all of white lead's characteristic richness, solidity and depth, a finish beautiful enough for even the finest interiors.

Its high coverage of 800 square feet per gallon, added to its quick mixing and easy spreading, makes it low in first cost while its long wear and easy cleanability make it low in cost per year.

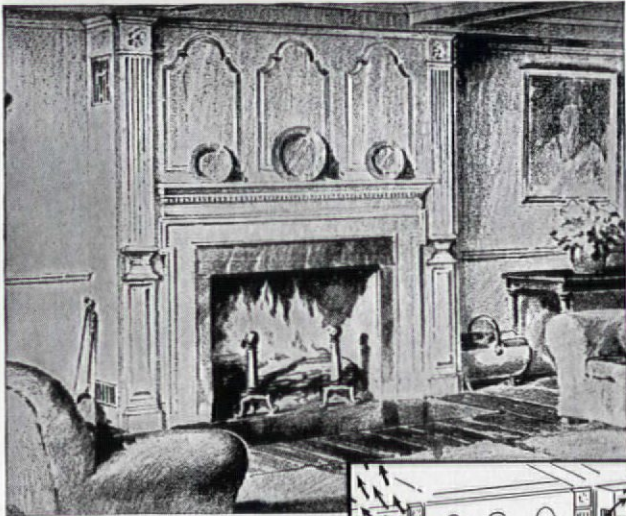
NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 900 W. 18th St., Chicago; 659 Freeman Ave., Cincinnati; 820 W. Superior Ave., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Building, Philadelphia.

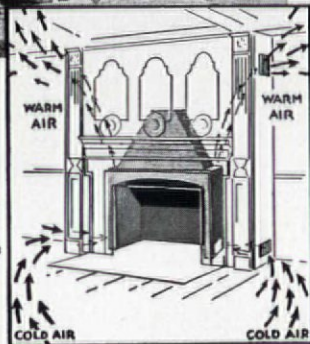
DUTCH BOY

WHITE-LEAD & LEAD MIXING OIL

Insure the Success of Your FIREPLACES



Build them
around the
Heatilator



WHEN you specify Heatilator construction for your fireplaces you know that they will be built as you design them. The Heatilator is a metal form for the masonry including correctly proportioned firebox, damper, down-draft shelf and smoke dome. It greatly simplifies construction and, being hidden in the masonry, does not limit mantel design or type of materials used.

Circulates Heat

The Heatilator is the ideal spring-and-fall heating unit for homes and camps—year 'round in mild climates. Cold air is drawn from floor level into the heating chamber, which surrounds the fire. There it is warmed and then circulated to every corner of the room and even to adjoining rooms. Smokeless operation is assured.

Thousands of Heatilator Fireplaces are now in successful use in homes and camps throughout the country. They are sold by leading building supply and lumber dealers—with stocks in principal cities for prompt delivery. Send the coupon for complete details.

Heatilator Fireplace

Heatilator Co., 543 E. Brighton Ave., Syracuse, N. Y.

Gentlemen: Please send complete information concerning the Heatilator Fireplace.

Name.....

Street.....

City.....State.....

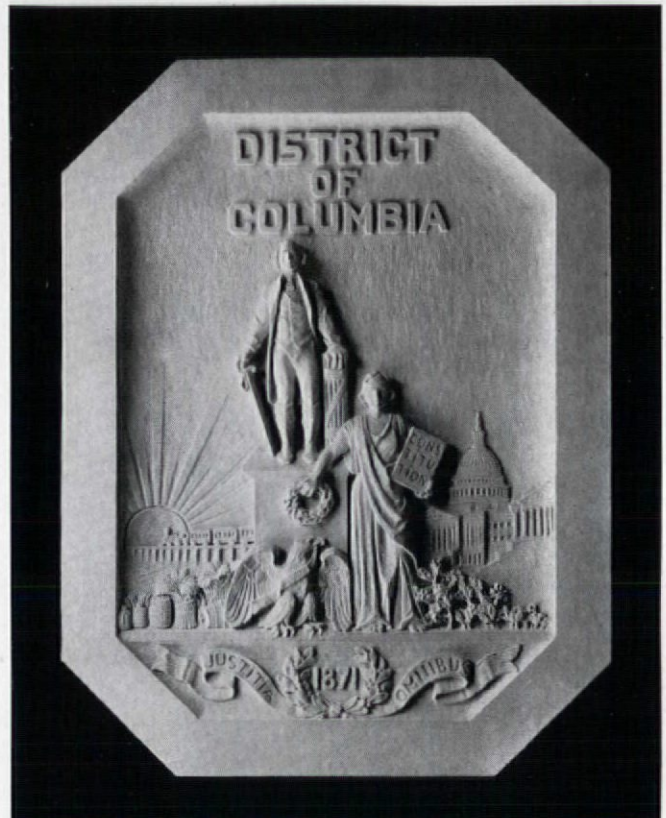
FORUM OF EVENTS

(Continued from page 46)

have it completed in time to synchronize with Fair opening. To cost \$1,000,000, it was proposed to raise the money by popular subscriptions, by soliciting large public-spirited donations, and by small admission fees—to be exacted in 1939.

LIMESTONE PLAQUE

THE seal of the District of Columbia, as it will appear on the pumping station of the New Sewage Treatment Plant in Washington. The first time ever to appear on any building



Building Stone Assn. of Indiana

SEAL—AS CARVED IN LIMESTONE

as a decorative motif, the seal was first modeled in clay, then carved in the limestone block from the model. Emil Jung, Washington, D. C., sculptor.

PERSONALS

LOUIS SKIDMORE and Nathaniel A. Owings announce the partnership of Skidmore & Owings, architects and industrial designers, with offices at 104 South Michigan Ave., Chicago. Owings, a Cornell graduate, was development supervisor at a Century of Progress, where he created such features as the Skyride and the Wings of a Century. Skidmore, onetime Rotch Fellowship holder and co-publisher of a book entitled Tudor Architecture, attended M. I. T. and was chief of design at the Chicago Fair.

M. Louis Kroman and Isadore H. Braun have formed the architectural firm of Kroman & Braun, with offices at 180 North Michigan Ave., Chicago. Kroman was with Holabird & Root following his graduation from the University of Pennsylvania and Braun, a graduate of the Armour Institute of Technology, was formerly associated with Graham, Anderson, Probst & White; Rapp & Rapp and Halperin & Braun.

(Continued on page 50)

Siphon-Proof

Announcing

A NEW LINE OF TOILET BOWLS

**EXPRESSLY DESIGNED TO MEET
PUBLIC HEALTH REQUIREMENTS**

Public Health Departments, everywhere, now demand protection against plumbing fixtures which are cross-connections.

Water pollution due to syphonage has proved directly responsible for epidemics of water-borne diseases.



Siphon-Proof toilet bowls eliminate any danger of back syphonage

Siphon-Proof toilet bowls are guaranteed to meet public health standards and architectural requirements.

Siphon-Proof assures absolute safety without the use of hidden or moving parts.

BE SAFE - SPECIFY *Siphon-Proof*

THE JOHN DOUGLAS CO., Cincinnati, Ohio

Without obligation, please send descriptive booklet "Safe Water - Saves Health" and detailed specifications of *Siphon-Proof*

Name.....

Address.....

City..... State.....



SYPHON JET



BLOW-OUT



WASHDOWN



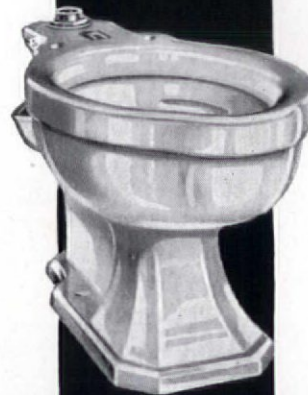
BLOW-OUT



REVERSE TRAP



BLOW-OUT



SYPHON JET



SYPHON JET

In the Beautiful
Municipal Auditorium
 St. Louis, Mo.



The Plaza Commission, Inc.
 Le Beunne & Kline
 Architects
 George E. Wells, Inc.
 Engineers
 Midwest Piping & Supply Co.
 Heat & Vent. Control
 (All of St. Louis)

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 FAN SYSTEM HEATING AND
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FROM imposing public structures like St. Louis' famous Municipal Auditorium, to the simplest heating or cooling job, Aerofin light-weight fin-type surface meets the most rigorous specifications.

For dependability, long life, high efficiency and trouble-free service, you will go a long way to find a heating surface that gives so much downright satisfaction as does Aerofin. Is it any wonder that professional technicians choose Aerofin with a confidence born of long experience? You, too, can depend on Aerofin for all buildings, large or small.

A complete line of equipment for heating and cooling is at your service. The home office in Newark or any of our branch offices will gladly send complete descriptive literature or render prompt personal and efficient technical co-operation. Simply write to the address below.

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 is sold only by
 Manufacturers
 of Nationally
 Advertised
 Fan System
 Apparatus.
 List upon Request

FORUM OF EVENTS

(Continued from page 48)

Frederick N. Clark, architect, announces the opening of offices at 441 North Beverly Drive, Beverly Hills, California. He will specialize in the design of residential and small apartments.

The partnership of Bowden & Russell has been dissolved. Phillips Russell will continue the practice of architecture with offices at 420 Madison Avenue, New York City.

Daniel Paul Higgins, of the office of John Russell Pope, has been appointed advisory architect of the rehabilitation movement that will spend over \$1,600,000 in the next two years renovating 600 non-profit charitable institutions in New York City. The money will be supplied by the W.P.A.

Choosing Natchez, Mississippi, as the site and Mississippi Georgian as the style, B. G. Rabe, A. Briggs and J. C. Lawrence of the Cornell Architectural School won the \$300 cash prize in the competition sponsored by the Association of the Alumni of the Academy in Rome. The problem was: A community recreation center for a town of about 12,000 people. Second prize (\$150) went to W. S. Allen, Mary L. Lawser, Katherine Blackman and Katrina Haines of the Pennsylvania Academy of Fine Arts. Third prize (\$75) to A. N. Daniel, M. Lauretain and G. Katrina of Yale.

Dr. Arthur Cutts Willard, President of the University of Illinois, received the F. Paul Anderson Gold Medal of the American Society of Heating and Ventilating in Chicago, January 29, 1936.

To Princeton University, the second time in four years, was awarded the medal presented annually by the Groupe Americain of the Société des Architectes Diplômés par le Gouvernement Français to the architectural school whose students achieve the highest aggregate score in the national competitions conducted by the Beaux-Arts Institute of Design in New York City.

Aristidi Nicco, M.I.T. '31, is in Asmara, Eritrea. He has just optimistically contracted to build a modern sixty-room hotel—with all the comforts of home—in Makale, northern Ethiopia. Though it will be erected at the forward point of the recent Italian advance, it will commemorate nothing.

John Tracy, A.I.A., announces the reopening of his Nassau Architectural office in the Development Board Building, Nassau, Bahama Islands.

Harry Bortin, recent Financial and Real Estate Analyst of the Low Cost Housing Division of the FHA, announces the opening of offices at 2819 27th Street, N. W., Washington, D. C. He will resume his general practice as consulting engineer, and at the same time serve as consultant and adviser in the more complex phases of the Low Cost Housing Division.

The contract for the main entrance to Cleveland's 1936 Great Lakes Exposition has been awarded to Anthony Ciresi, instructor in the Cleveland School of Architecture. His design, a 400-foot long building ornamented with 70-foot illuminated pylons, was adjudged the best of hundreds submitted.

ANNOUNCEMENTS

MARCH 14 is the last day on which the managing committee of the John Stewardson Memorial \$1,000 Scholarship in Architecture will receive applications. Persons who have studied or practiced in Pennsylvania are eligible. Information from Edmund R. Purves, Secretary, The Architect's Building, 17th and Sansom Sts., Philadelphia.

Two awards of \$500 and a year's free tuition at the School of Architecture at Princeton are open to all single men between 21 and 27 with three years or similar drafting experience. Date: April 2 to 14. Subject: Open competition in design. Applications: Professor M. L. Beck, Chairman,

(Continued on page 52)

Here's one more reason why

...when it's Air Conditioning...you should call on York

Headquarters for Mechanical Cooling

Here is a piece of York equipment that every architect and consulting engineer will be glad to know about. It's called the York Economizer. For the past five years, this piece of York equipment has been used on hundreds of special applications. Now it is available in a number of standard stock sizes suited to large and small jobs. A complete self-contained, combined forced-draft cooling tower and refrigerant condenser, it will, in many applications, save your clients lots of money on the costs of *both power and water*.

The York Economizer saves about 99% of the water normally needed for any Air Conditioning System. Using, *and re-using*, the original gallonage of water needed . . . plus only 1% to replace normal evaporation and wasting NONE . . . it is a life-saver. Especially is this true in those cases where municipal ruling prohibits you from (a) using large quantities of water for Air Conditioning; (b) forbids you, because of the limited capacities both of the city sewers and building-drainage systems, from disposing of large amounts of water.

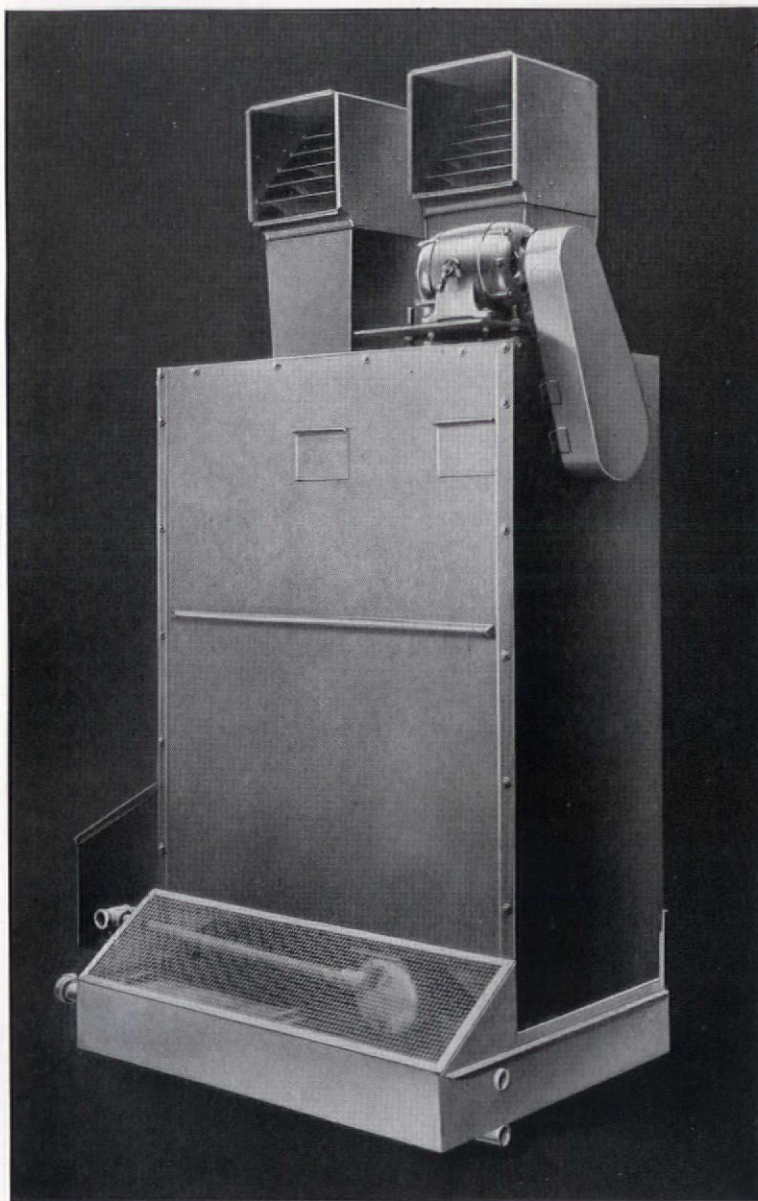
From the angle of power consumption, the York Economizer saves about 97% of normal amount of power used for pumping. It can be installed outdoors, or in ventilated space using discharge duct to outside for rejection of condenser air.

All the facts about the York Economizer are in the York Data Book for Architects. Have you a copy? If not, ask your nearest York branch.

York Offers Cooperative Engineering Service in Every Important Center of Demand

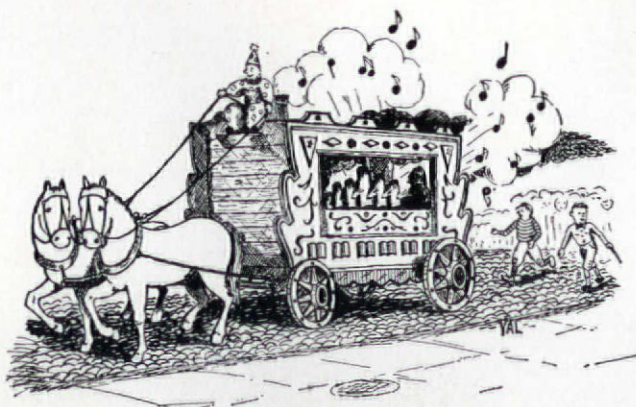
To architects, consulting engineers, heating contractors, York offers a wealth of trained *engineering* skill that is unmatched in the field of Mechanical Cooling. And York manufactures such a wide range and volume of Air Conditioning equipment that it can deliver *engineered* Air Conditioning products for any job, correctly designed and individually fitted . . . no matter what the size or type of building.

YORK ICE MACHINERY CORPORATION, YORK, PENNA.
HEADQUARTERS BRANCHES THROUGHOUT THE WORLD



YORK

Commercial and Industrial Air Conditioning . . . Commercial, Industrial and Institutional Refrigeration . . . Dairy and Ice Cream Plant Equipment



STEAM Makes Sweet Music on a Calliope...

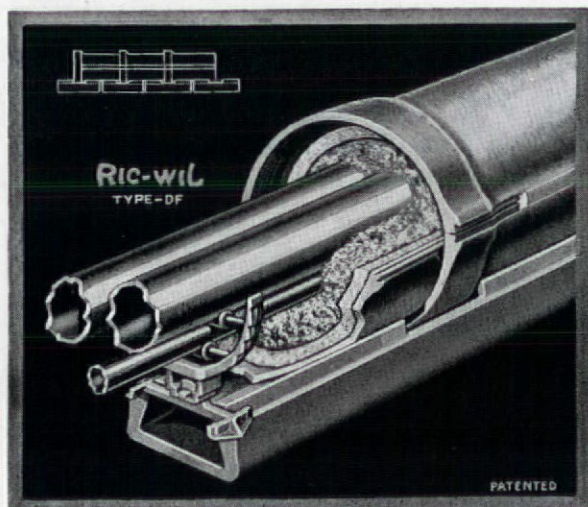
BUT what kind of a noise does it make on your underground pipe lines? The best sound it can make *there* is silence. If it hisses, you won't hear it. But it's hissing away your money, rotting your insulation, running up your fuel bills.

Keep your underground steam power or heating lines (present or future) tight, dry, efficient with a Ric-wil System. Made in a variety of types, materials, and insulation methods (including the famous waterproof asbestos Ric-wil Dry-paC), it secures satisfactory and economical results on any problem of underground steam transmission. Ric-wil Systems are complete, including installation instructions and engineering service drawings, also supervision for the job if desired. Write for Bulletin.

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Ric-wil
CONDUIT SYSTEMS FOR
UNDERGROUND STEAM PIPES

FORUM OF EVENTS

(Continued from page 50)

Princeton Prizes in Architecture, McCormick Hall, Princeton, New Jersey.

In Boston, April 13: preliminary examinations for Rotch Traveling Fellowship. Write C. H. Blackhall, Secretary, 31 West St., Boston by April 1.

Sun-baked Mediterranean trippers will be afforded a pleasant respite from ordinary sightseeing if they visit the exhibition of architecture and home and city planning at the Civic Building, Champ de Manoeuvres, Algiers. It will open March 28 and continue until April 19. Group exhibitions from all parts of the world will be shown but indigenous work will be featured.

DEATHS

WILLIAM B. ITTNER, F.A.I.A., 71, architect, in St. Louis, Mo., January 26.

William Butts Ittner was born September 4, 1864, in St. Louis. He graduated from Cornell University after attending public schools and the Manual Training School of Washington University in St. Louis. Following further study and travel in Europe, he became associated with the St. Louis architectural firm of Eames & Young in 1888. The next year he opened his own office.

Specializing in public school architecture, he was elected Commissioner of School Buildings for St. Louis in 1897. In 1910 he was appointed architect for the Board of Education, which position he filled until 1916. For the last eighteen years he had served as planner and designer of over 400 schools in 28 different States.

His outstanding contribution to architecture was his revolutionary design of public schools. Up to 1890 the public school was no more than a square box with a central dark corridor. Ittner instituted the "E" and "L" or "open plan," bringing about improved light and ventilation with a better plan. His school buildings invariably invoked great civic pride. He also designed many Masonic buildings, including the Scottish Rite Cathedral in St. Louis.

He was elected to fellowship in the A.I.A. and was awarded a medal for meritorious achievement in the design and construction of school buildings by the St. Louis Chapter of the Institute. He served as president of the Chapter 1895-6. He was also on the board of directors and at one time President of the Architectural League of America. In 1903-05 he was President of the Cornell Club of St. Louis; and 1902-03, of the Civic Improvement League of St. Louis.

RICHARD B. DERBY, 58, architect, in Winchester, Mass., January 21.

Richard B. Derby was born in Concord, Mass., in 1878. He graduated from the Massachusetts Institute of Technology in 1900 following early education in the Concord schools.

He was for many years a member of the firm of Derby & Robinson in Boston, later becoming associated with Derby, Barnes & Champney, that city. He was especially successful in his designs of domestic architecture. Before his death, he served for many years as a member of the Planning Board in Winchester, where he made his home. He was also a Director on the Board of the Home for the Aged.

WILLIAM PIERCE AQUIN, 45, architect, in Montreal, Canada, January 26.

William Pierce Aquin, supervisor of many public buildings in Eastern Canada and the U. S., was at one time associated with the New York firm of McKim, Mead & White. He assisted in drawing the plans for the Newark Masonic Temple and the Beth Israel Hospital.

Adaptability



This interesting AZROCK adaptation is the floor in the ultra-modern taproom of one of Florida's most exclusive hotels.

Architecturally interesting is the fact that Azrock Carpet Tile so readily adapts itself to any surroundings. This is largely because the variety of beautiful colors and textures fairly invites the very design you need to emphasize your architectural intent. Azrock floor coverings are equally at home in dignified offices, comfortable kitchens, efficient hospitals; doing heavy duty in busy stores or enhancing the modernity of sleekly smart homes. Azrock's cushiony resilience subdues noise and adds to walking comfort. Moisture-proof, fire resistant, it will not warp nor check; nor can it be damaged by burning cigarettes. For permanence, the colors are uniform throughout the full thickness of tile. This durable, long-life floor covering is economical, practical and distinctively beautiful.

Uvalde Rock Asphalt Company
San Antonio, Texas.

Without obligation, please send me more information about AZROCK Carpet Tile.

Name _____ Address _____



LETTERS—

(Continued from page 10)

Forum:

My conception of a "Fair of Fairs" is that it should be general and indeterminate. General in that it should cover as many as possible, if not all the fields of man's endeavor; indefinite in that it leave the public thinking "whither hence?" This can be done by using the three grammatical tenses, i.e., Past, Present and Future. Each field should be treated in such a manner as to start in the past as far as practicable, work it up to the present, and finally lead to our conception of what the future will bring. It should be so laid out that when a person reaches the final exhibition he should be unconscious of the fact that the display is over and has to be informed by a final quotation such as "whither hence?"

The Fair should possess a name or title that can be coupled with the sub-titles of the various fields. A few examples are:

The Paths of Civilization

The Paths of Man

The Paths of Destiny

Titles such as these can easily be linked with the "field-titles," or I should say the "field-titles" can be linked with the Master title such as—the title of the industrial field can be—The Path of Industry, that of Education, The Path of Education, etc.

LAWRENCE J. DE MEO

Lexington, Ky.

Forum:

... The Fair ostensibly is to be in commemoration of the 150th Anniversary of the inauguration of George Washington, President of the U.S.

As a delegate to the Continental Congress at its beginning and, later, as Commander-in-Chief of the Continental Army, George Washington soon became world-widely acclaimed as the foremost citizen of the continent. Above all else it was his far-flung Continental vision and service that marked him as the man-of-the-hour for the first presidency of the New Republic.

That word "Continental," at that all-important time of the birth of the nation, signalized the throbbing and vitalizing force that motivated George Washington and the many other outstanding patriots of his day and that became the illuminating flame to the stirring actions and deep-founded judgments that so well and ably started the U.S. on the way to the grandeur of its federated unity and national destiny.

Therefore, it seems almost academic that the word "Continental" should be a part of the name of the 1939 World's Fair.

Then, of course, the big idea behind the Fair in New York is, essentially, New York itself, as the great Corridor of the Continent, from the early days of the first Continental Congress down to and including (looking ahead) the year 1939.

Therefore, I suggest as the name and descriptive designation of New York's 1939

World's Fair the following:

Continental Corridor

A Gallery of the Nation's Industries, Arts and Sciences and a Passage of the World's Peoples and Goods.

JOHN H. WARD

New York, N. Y.

Sullivan and Wright

Forum:

Mr. Sterner "In Search of an American Style" relates that "In Europe the names of Sullivan and Wright are famous and respected, but both of these men were given relatively few opportunities to practice their genius and now Sullivan is long since dead and Frank Lloyd Wright approaching the end of his career. It seems as though the old adage that 'prophets are without honor in their own country' is all too true, and that eliminates Sullivan and Wright."

We that know, are thoroughly sick of this kind of claptrap.

Both Sullivan and Wright were given abundant opportunities to practice their genius. Sullivan has left an imposing trail behind him that still lives though he is dead and Frank Lloyd Wright (still very active and far from the end of his career) has already produced more executed buildings and designs than any other one architect in the world has produced during a whole lifetime. Certainly these men are highly honored in their own country. We

(Continued on page 56)

ANOTHER *Koh-i-noor* PRODUCT

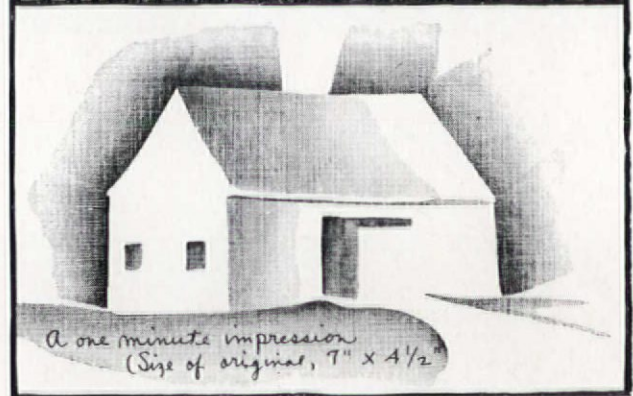
DESCRIBED BY A. L. GUPTILL

MONA LISA OIL CHALK STICKS

WORDS cannot do justice to these remarkable chalks. They are so strong that breakage is rare. Their durability makes them economical. Their square shape and large size permit extremely rapid work. They are absolutely free from grit. They come in 27 permanent colors which blend perfectly. Much stronger than pastels, they require no fixative. They are just the thing for modern effects.



A SIMPLE APPLICATION

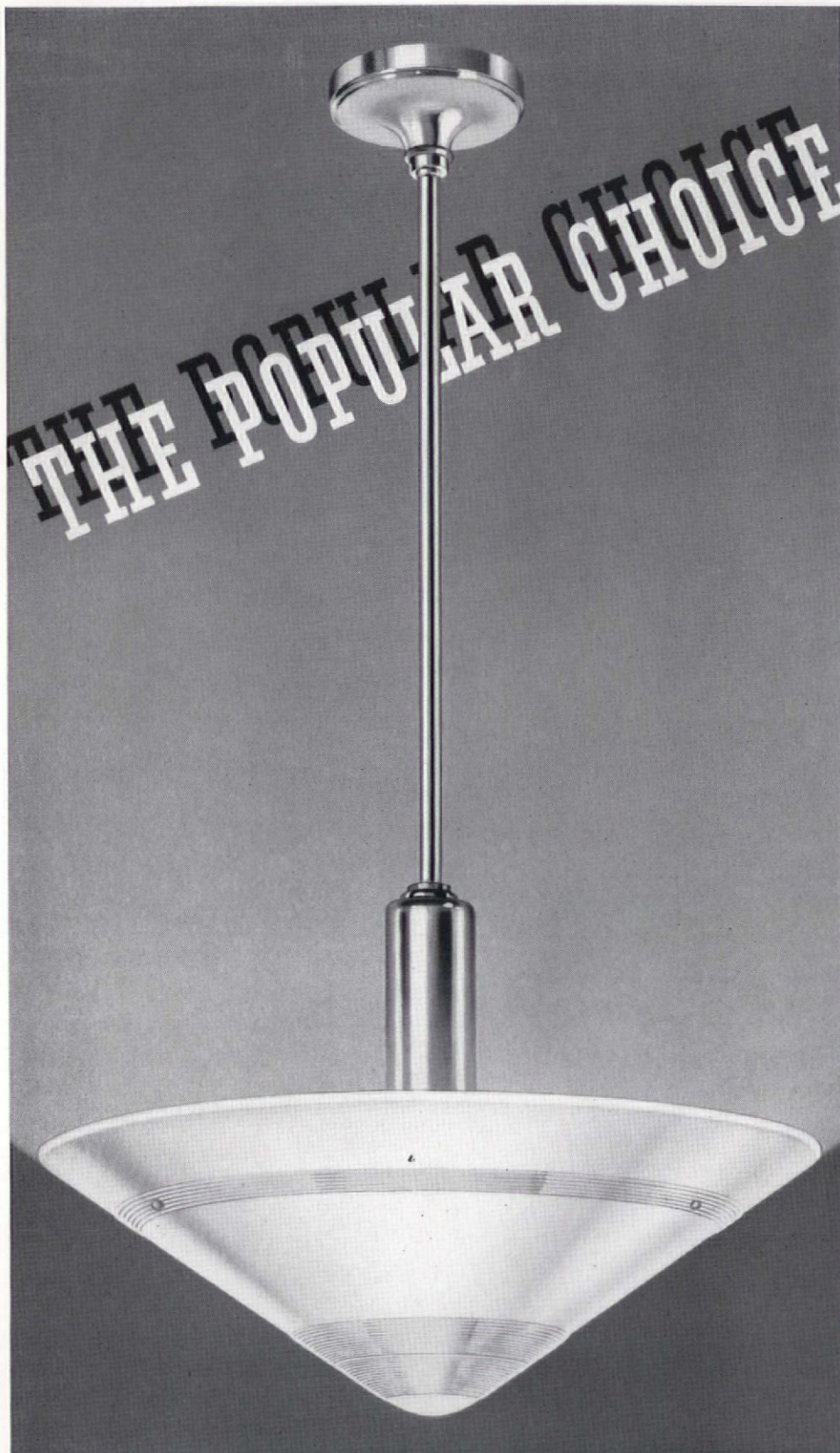


A one minute impression
(Size of original, 7" x 4 1/2")

Only by trial can you realize the possibilities of these sticks. Get a set and convince yourself. Set of 13 assorted colors, \$1.00. 18 colors, \$1.40. 24 colors, \$1.85. Individual colors, 10 cents a stick.

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SCHOOLS • OFFICES
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2 reasons why **MAGNALUX** GIVES MORE AND BETTER ILLUMINATION

1 Here's one reason why Magnalux illumination is so unusual. The basin glass is scientifically proportioned so that every portion of the exterior surface is uniform and softly illuminated, free from glare, highlights and shadows. This *plus* feature is accomplished through graduation of the glass thickness in relation to its distance from the lamp filament. You can look directly at Magnalux without the slightest squint or blink of the eye! Low surface brightness with rich color tone are important Magnalux features.

2 The basin glass is unusual in itself... Galax glass... made from an exclusive scientific formula which produces a reflecting glass so efficient that 95 per cent of the illumination from Magnalux is indirect! The net result is more and better light for your money.

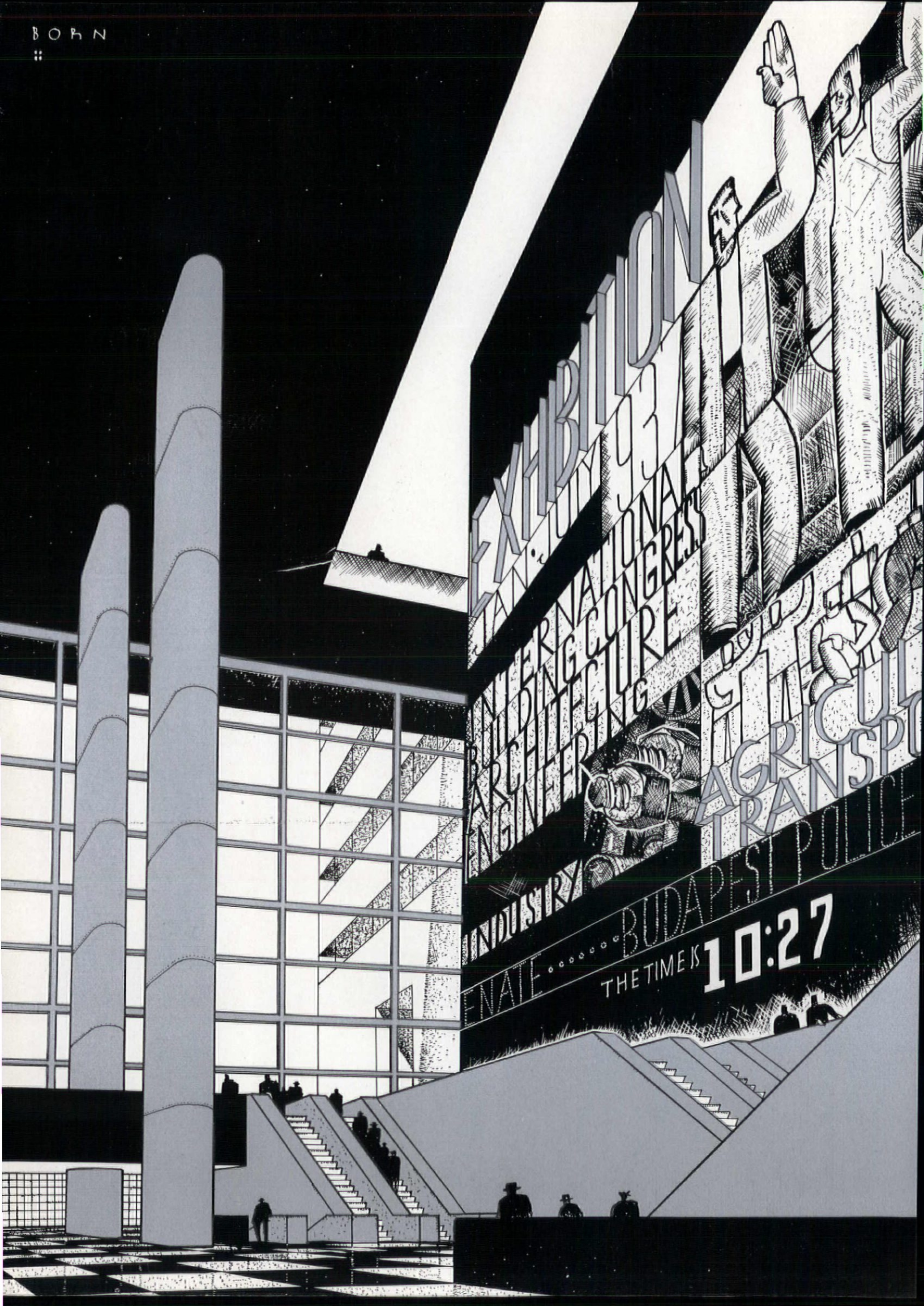
Specify Magnalux for the finest, most economical and modern illumination money can buy. For full details and catalogs, see your Westinghouse Distributor, or write Westinghouse Electric and Manufacturing Company, Lighting Division, Edgewater Park, Cleveland, Ohio.



WHEN YOU THINK OF *Lighting* THINK OF
Westinghouse

BORN

⋮



CAN MONUMENTAL BE RE-DEFINED?

Is it not time to suggest that it is possible to achieve tremendous monumental character without adherence to traditional forms? ¶To be imposing, true and lasting is the end. The means may well be a material as modern, as flexible in inherent character, and as lasting as Alcoa Aluminum. ¶For example, in this great hall, monumental in concept, the use of unadorned Aluminum meets major architectural demands, and at the same time satisfies the special requirements of the scene. ¶This might well be an exposition hall, planned for permanence. It might be the great hall of a municipal or state development. Again it might be the focal point of an industrial center, or group of factories, where executive and sales offices, laboratory, and exhibition requirements would be concentrated. ¶It is, with the help of Alcoa Aluminum, dramatic, forceful, convincing, i. e., monumental. ¶Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA · ALUMINUM

LETTERS—

(Continued from page 54)

might revise the old adage to read that prophets are "without money" in their own country, but even this would not be exactly right as both Sullivan and Wright have earned and received a large amount of money for their services. They have by nature been workers, spenders and givers—not eclectics, graspers, and word talkers on the "in."

If we are to have an American Style, all we need is more men like Sullivan and Wright, given the opportunities they have been given and honored as they have been honored, right here in the United States.

JOHN LLOYD WRIGHT

Michigan City, Ind.

Foot Trouble

Forum:

In looking over the issues of your magazine, we note that you quote cost usually in terms of cubic feet. Our local board, of the National Association of Real Estate Boards, is conducting an appraisal class and at the last meeting considerable discussion arose over the relative merits of the two methods of valuing buildings. One group held to square foot method and the other championed the cubic foot method, and we are wondering if there is any particular reason why you seem inclined to the cubic foot method and which, in your opinion, is the most

accurate basis for appraising. Personally, I was taught the cubic foot method but members of the board whose judgment I respect are wed to the square foot method. Each of us is trying to get some data to substantiate our claims on the particular method used, the idea being to determine, if possible, which is the most accurate and to adopt that method as a board.

ED. MENDENHALL

High Point, N. C.

Both methods have equal merit. THE FORUM expresses costs in terms of cubic feet because of its more general usage.—ED.

Who Pays?

Forum:

Everyone interested in the subject knows by this time that it is impossible to provide housing for less than \$10 per room per month without municipal, State, or Government aid. We also know that the Government will make this figure vary. However, this rental can be reduced in proportion to the amount the Government is willing to grant and in proportion to the rate of amortization. When we read set-ups based on a period of 60 years for amortization we are led to believe that the word "obsolescence" has been omitted in some people's dictionaries.

In referring to housing we do not include such as the new Bronx Apartments which rent for \$25 per room. Those who can afford to pay \$10 or more per room do not present a problem, at least not a housing problem. We have in mind housing for

families the heads of which earn \$18 or less per week and which comprise nearly 60 per cent of our population.

One solution is an outright Government Housing Policy to own housing and make it a service. The mere "priming" of the housing "pump" and then the dumping of the whole project at the first sight of prosperity is what we may expect if we read between the lines.

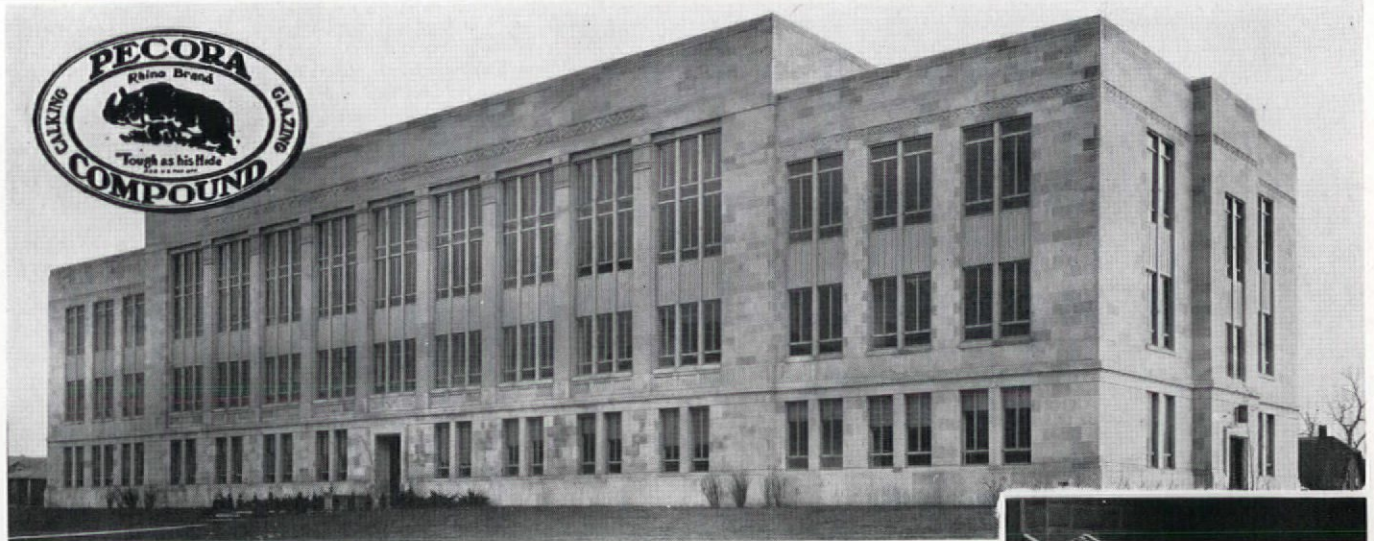
Private industry, initiative and good taste have nothing to fear. Houses whether owned privately or by the Government must be maintained and even replaced, we have reason to believe, in shorter intervals than 60 years. Common labor, skilled labor, white-collar men, yes, even architects of the Fine Arts variety will then get useful employment. Money will of necessity be deprived of its daily dozen; and here is where the rub comes; no more fancy turn-overs; just a normal existence for it.

The question "Who will pay for the buildings" can be answered by another question, "Who pays for the Navy?" We know that it would take a vast amount of capital to begin but we are sure that man-hours can produce the wealth.

When housing becomes a Government Service, slums will be eliminated, houses will be built and occupied and men will be usefully employed—or is it unconstitutional for the lower 60 per cent of our people to live in decent homes?

SIMON WASSERMANN

Philadelphia, Pa.



Indiana University School of Dentistry, Indianapolis. Robert Frost Daggett, Archt.
Wm. P. Jungclaus Co., Genl. Contrs. Calking by McFerron-Kane Co., Indianapolis

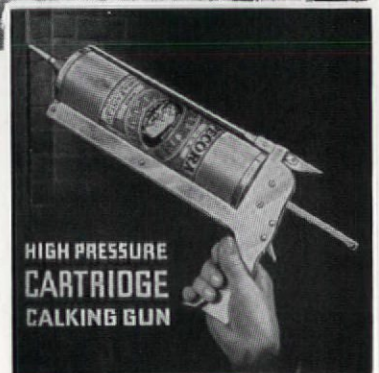
This Is A Weather-tight Building

SIGNIFICANT of the recognized importance of calking today, is the thorough manner in which this building has been protected against weather penetration and against needless heat losses. As the leader in its field, Pecora Calking Compound was used to seal all exterior window and door frames, the vertical joints in stone courses and the stone coping. In addition, the window erectors set all steel windows and spandrels in Pecora Mastie. Do not take chances with inferior products. Properly applied, Pecora will not dry out, crack or chip. You can depend upon this.

For further details see Sweet's Catalogue or write direct to us

Pecora Paint Company, Inc.

Fourth and Venango Streets Est. 1862 by Smith Bowen PHILADELPHIA, PA.
Also Makers of MORTAR STAINS SASH PUTTIES SUCTION MASTIC



This New Type High-Pressure Cartridge Calking Gun (patent applied for) is a great Time and Material Saver. Pecora Calking Compound is packed in Non-Refillable cartridges of approximately One Quart capacity.

New Program Sound System fits-in on many projects . . .

It's compact . . . modern in
design . . . low in cost!



You'll find this new Western Electric sound distributing equipment ideal for school, hospital, and hotel installations. Engineered by Bell Telephone Laboratories, it lives up to Western Electric's high standards of quality in every way. Outstanding features are:

1. MICROPHONE & LOUDSPEAKER combined for first time. Other microphones for picking up speech or music installed where needed. New "Talk-back" circuit for inter-communication.

2. SELECTOR SWITCHES. Up to 60 keys may be provided to control loud speakers. With one amplifier, only one program may be delivered — with two, two programs may be reproduced in different rooms.

3. ALL-WAVE RADIO for receiving broadcasts from U.S. or foreign stations. Furnishes entertainment in hotels and hospitals—instruction in schools.

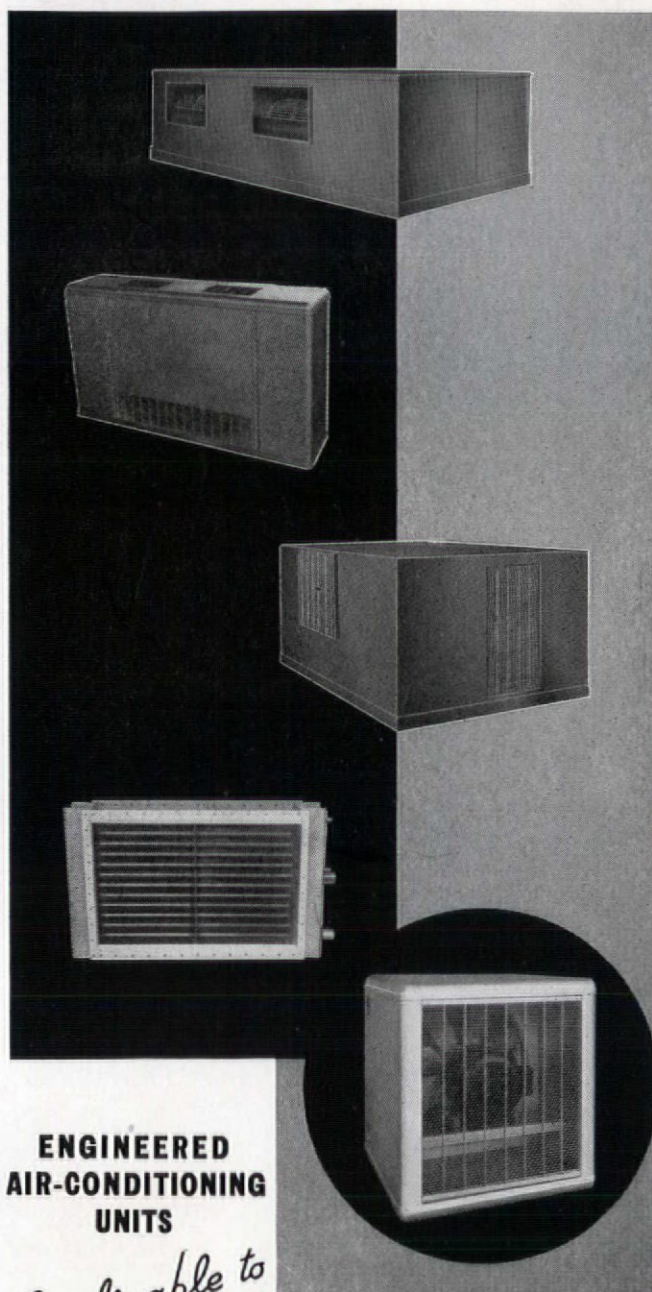
4. RECORD REPRODUCER — a two-speed turntable for playing standard phonograph records. Supplies music for a few cents an hour whenever desired.

For full details, write to Graybar Electric Co., Graybar Building, New York.

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ENGINEERED AIR-CONDITIONING UNITS

Applicable to

VARYING REQUIREMENTS

AIR CONDITIONING equipment must be flexible enough in arrangement and type to meet the requirements of every kind of building. The illustrations above show the basic TRANE units which engineers everywhere are selecting for their Air Conditioning Systems using direct expansion refrigerants or water as the cooling medium. Listed from the top are: Commercial Type Cabinet for medium and large capacity installations. Below, is the Deluxe Floor Cabinet Unit. Center, Single fan hotel and office unit. The Famous Trane Coil for central system work and at the bottom the Trane propeller fan type suspended unit.

There are no limitations to your air conditioning system design when you specify TRANE. We will be glad to send complete data for your files together with lists of installations in every type of building.

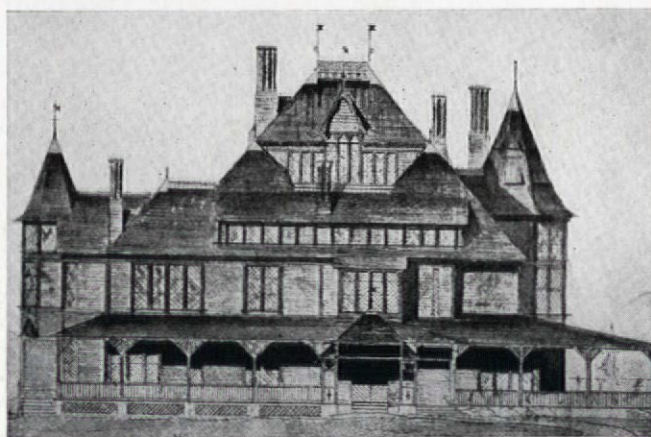
THE TRANE COMPANY LA CROSSE, WIS.
Also, Toronto, Ont.

BOOKS

(Continued from page 31)

structions, they anticipated in their bold use of large openings the buildings that could only be framed with steel.

In his footsteps followed Sullivan, Root, and the moderns. His wooden houses were the beginnings of something that might have developed into a new wood architecture. Architecture, to Richardson, was something that could not "be fully judged except in concrete shape and color, amid actual lights and shadows and in its own particular surroundings." Had his disciples realized the meaning of this statement the country might have been spared the flood of paper facades that rose after his death.



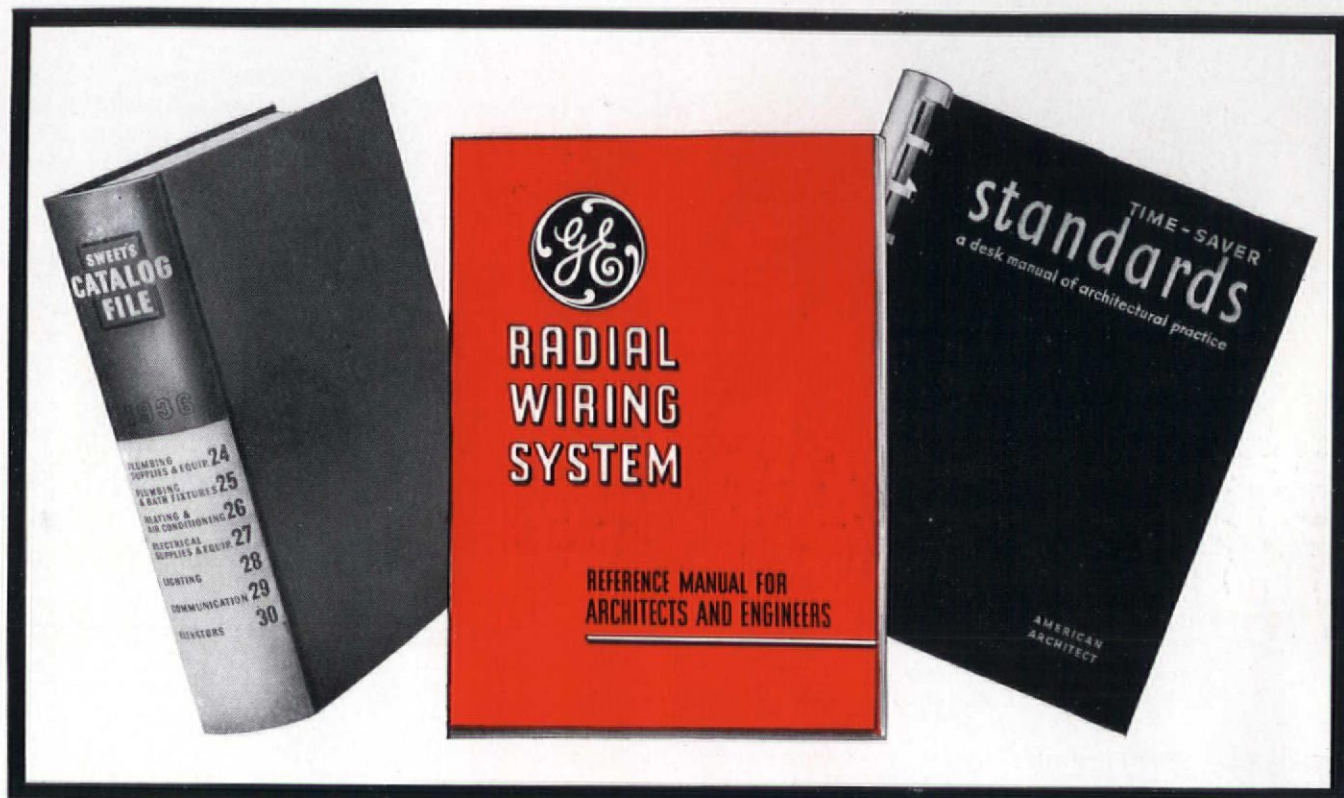
ANDREWS HOUSE—NEWPORT

Insofar as Mr. Hitchcock's book throws light on Richardson's career it is of value; unfortunately it is so full of the most minute reporting of trivial detail that the man, his personality, and the relation of his work to past and present are lost. A fact is important only as it clarifies and emphasizes the subject under discussion; to Hitchcock, however, fact is important because it is a fact, and with the most appalling gusto he has crammed them all into the book. Such critical observations as the following are typical: "The most conspicuous feature of the design (North Easton Library), hitherto not found in any of Richardson's work, is the very low arch rising in Syrian style almost from the ground. The cavernous appearance of this characteristic feature . . . almost suggests some Freudian motivation in the subconscious. Yet the detail in this arch is neither Syrian nor related to poor Oedipus. The zigzags are, indeed, rather definitely Norman, although lacking in the proper boldness . . ." and so on.

This kind of thing may have an appeal to the type of academic mind that collects words as a squirrel collects nuts; it may even have some archaeological interest for the researchers of a century hence; but rather than criticism it is only the useless parading of irrelevant knowledge, and the enlightened architect or layman who is interested in finding out something about Richardson and the time in which he worked can save much time and energy by reading pages 114 to 132 of "The Brown Decades." Mr. Hitchcock's book, however, is the most completely documented work on Richardson that exists, and contains an excellent collection of illustrations. It also presents a point of view which differs from that of other writers: Richardson, to Mr. Hitchcock, was the last of the old architects rather than the first of the moderns, and his influence on those who followed was unimportant. Regardless of divergences of opinion, however, one fact stands out: Richardson, after a half century of indifference, has been restored to the place that is his.

(Continued on page 62)

Look At All Three....



The new G-E Radial Wiring System, provides the type of wiring that modern homes must have. It is sound in design . . . fully adequate . . . economical . . . provides for the future. And behind the G-E Radial Wiring System are years of research, development and manufacture of high-quality Wiring Materials.

Complete information concerning this new G-E Radial Wiring System may be found in these three publications: "Sweet's Catalog

File", "American Architect Time-Saver Standards" and in our bulletin "The G-E Radial Wiring System Manual". This information is written for architects and engineers by architects and engineers. It gives you the specific technical details that you want. Send for our bulletin "The G-E Radial Wiring System Manual for Architects and Engineers". Write Section CDW-913, Appliance and Merchandise Department, General Electric Company, Bridgeport, Conn.

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BOOKS

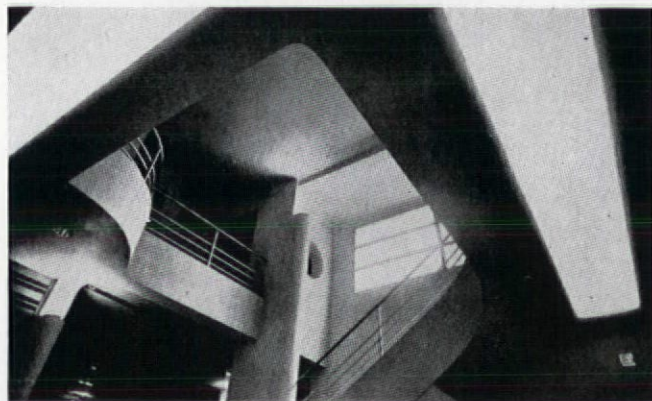
(Continued from page 60)

ARCHITETTURE LUMINOSE, by G. Canesi and A. Cassi Ramelli. Ulrico Hoepli, Milan, publisher. 162 pp., 216 illustrations. 9 x 11. Lire 80

The lighting of buildings, treated as an indispensable part of the design, is a phase of architecture that has developed within a comparatively short span of years. It was only 20 years ago that the Panama Pacific Exposition showed the possibilities of architectural illumination, and though the art has developed since then with the greatest rapidity, it might still be said to be in an early stage. This does not detract from the value of the study made by two young Milanese architects, whose book, the first of its kind,



NEON TUBE FOUNTAIN—GENOA



HOTEL INTERIOR—PARIS

presents a stimulating collection of photographs which show architectural lighting in its most imaginative and varied forms. The book divides into three general classifications: exterior illumination, interior lighting, and fixtures. One has only to glance at the material shown to realize that lighting is just one more factor in the development of a new architecture: so unprecedented are the forms required for an effective use of light that any traditional design is utterly inadequate. The most complete work of its kind, "Architetture Luminose" fills an important place in the working library of any architect interested in lighting.

(Continued on page 64)

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NEW KAWNEER EXTRUDED STORE FRONT CONSTRUCTION, in aluminum or bronze, introduces new simplicity and a new measure of resiliency. Sash is self-supporting; has only 3 parts. Glass is held by outward pressure from a continuous Spring. Joints may be accurately mitered and coped. A complete line of attractive extruded companion members is available; in addition to the famous Kawneer line of cold-rolled construction, and Custom-Built Fronts in any practical metal. ● **KAWNEER METAL DOORS** may be obtained in stock design or to architect's specifications for greater unity in the store front effect, and more lasting, dependable service. ● **KAWNEER SEALAIR WINDOWS** bring the obvious advantages of carefully fabricated aluminum or bronze alloys: permanence, upkeep economy, beauty, compactness, and strength. Patented Sealair construction is highly weatherproof and dustproof; provides for speedy installation, and dependable, easy operation. New Light Sealair Windows (weight-hung or casement) offer standard units for the average home; Medium Sealair, for commercial use; Heavy Sealair, for special requirements in larger buildings and residences. ● **ALUMILITING**. Kawneer maintains large and complete alumiliting equipment in addition to facilities for producing all customary metal finishes. For further data on Kawneer products see catalogs in Sweet's, call the local Kawneer Store Front or Sealair Window dealer, or write **THE KAWNEER COMPANY, NILES, MICH.**

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Ewart's Cafeteria
Philadelphia

Max A. Reinhardt
Architect

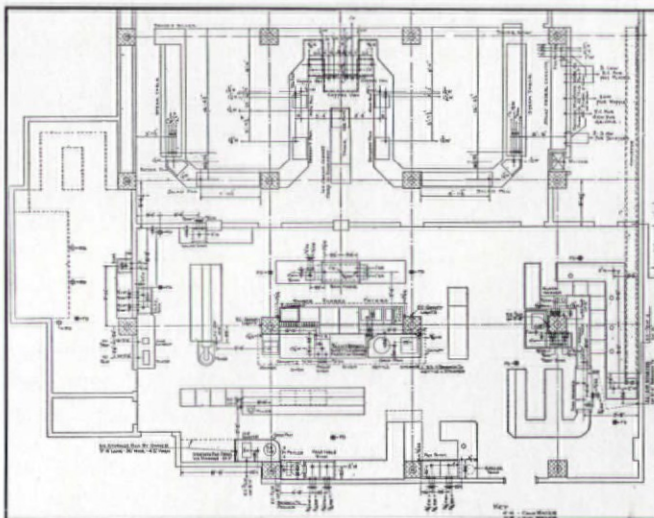
FOR the fourth consecutive time the architects serving Mr. W. C. Ewart's chain of cafeterias have followed the procedure established while Mr. Ewart was connected with another chain. In planning and equipping the new Philadelphia establishment they availed themselves of the

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In common with the Ewart Cafeterias in Richmond, Norfolk and Washington, the beautiful cafeteria recently opened in Philadelphia's Franklin Trust Building is laid out and equipped to render maximum satisfactory service to the public at minimum cost and greatest profit to the owner.

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Please send plans of all food service floors before construction is begun if possible.



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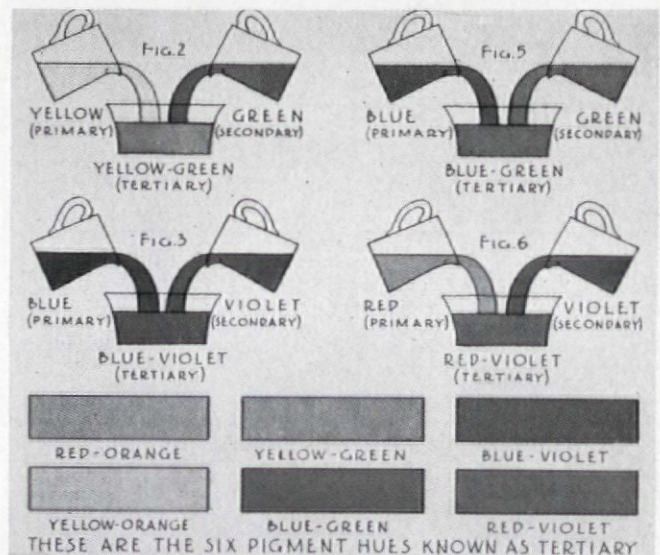
CINCINNATI, OHIO

BOOKS

(Continued from page 62)

COLOR IN SKETCHING AND RENDERING, by Arthur L. Gupitll. Reinhold Publishing Corporation, New York. 348 pp., numerous illustrations in color and black and white, 9 1/4 x 11 3/4, \$10.00.

A practical treatise on the uses of color in pigment form, with particular emphasis on watercolor, this book is primarily a textbook designed for student use. It is based upon the author's many years' experience as a teacher, and its chief value lies in the emphasis placed upon the problems which have most frequently recurred in the classroom. In the exhaustive manner which characterizes his well-known books on pencil and pen and ink techniques, Mr. Gupitll discusses artists' materials, exercises in wash and color, special techniques, and color theory as it applies to the would-be painter or renderer. Chapters on outdoor and still life sketching, representation of trees, lawns, skies, water, etc., give the



TYPICAL ILLUSTRATIVE DIAGRAMS

beginner many valuable hints on how to avoid the usual pitfalls. Over 100 illustrations of work by noted water colorists and renderers, printed in full color, are included. As the most complete work of its kind the book is an indispensable document for anyone interested in sketching or rendering, and the large number of illustrations in color makes it an excellent value at the price.

MECHANICAL AND ELECTRICAL EQUIPMENT FOR BUILDINGS, by Charles Merriek Gay and Charles De Van Fawcett. John Wiley & Sons, Inc., New York. 429 pp., 6 x 9. \$5.00.

A textbook presenting the essentials of mechanical and electrical equipment for buildings, describing the fundamental theories involved and their application. It has been prepared for use in architectural and technical schools, in the everyday practice of architecture, and in preparation for civil service and state license examinations. Five separate subjects are treated in considerable detail: water supply, plumbing and drainage, heating and air conditioning, electrical equipment, and acoustics. The text is concise and illustrative material has been well prepared. It is altogether an excellent book for the architect who wishes to bring his technical knowledge up to date or for the student just beginning.



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for
Air Conditioning



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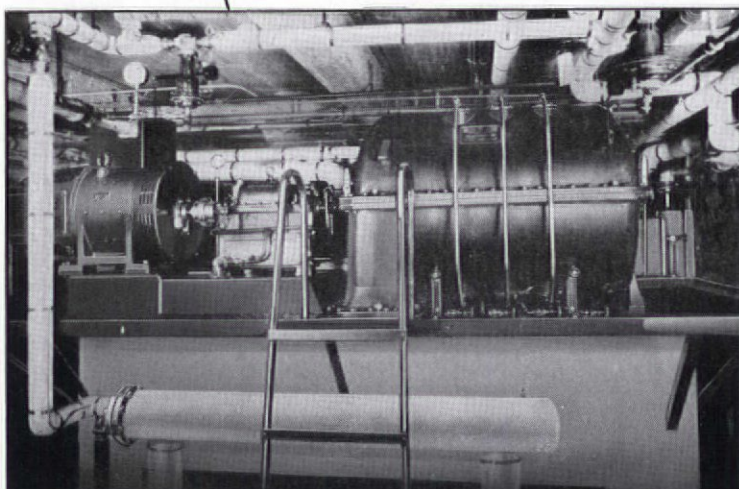
If the equipment had not proven satisfactory, we would have been the first to call your attention to it, and I therefore feel that inasmuch as it proved entirely satisfactory, you are also entitled to be acquainted with the facts accordingly.

Very truly yours,
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How to Keep Out of Hot Water By Keeping In it

LET'S look squarely at this question of hot water supply. Might it not be that some of us have forgotten old man Diminishing Ratio?

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A separate water supply boiler with its smaller fire, will do the job better. Do it with a decided saving of fuel.

It is at that point that the Heavy Duty Special Hot Water Supply Burnham comes into its own. A boiler tested up to 300 pounds and guaranteed for 120. It is made in 18 sizes with capacities from 500 to 3,800 gallons.

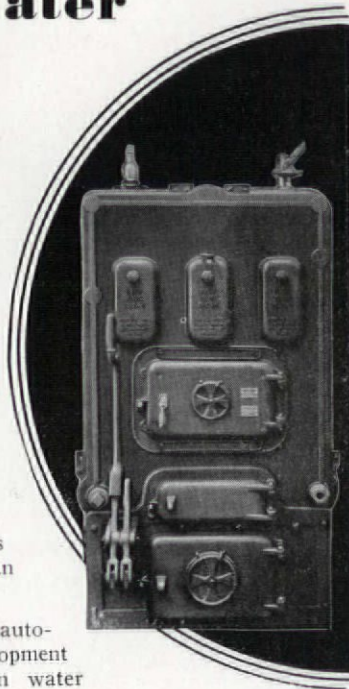
Frankly, it has earned for itself some decidedly convincing records, which we don't at all mind your seeing. Records that prove most conclusively that one of the best ways to keep your clients out of hot water, is to keep them in it, with this Burnham.

To the records and our catalog you are most welcome.

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PRODUCTS AND PRACTICE

(Continued from page 23)

suggestions are made regarding those things requiring special attention to enable a careful contractor to produce a thoroughly satisfactory job. The booklet also contains much information useful to architects in the preparation of specifications for architectural concrete work.

REVISION OF BUILDING CODES

The Building Codes Correlating Committee of the American Standards Association will hold its third meeting in New York this month. The organization of this committee gives a much needed impetus to a necessary movement for cleaning up the present confusing conditions in the building code field. Talk of securing more rational and economical standards for building construction has at last crystallized into definite action.

The American Standards Association was asked to undertake work on a national building code by Secretary Roper of the Department of Commerce when the Department's Building Code Committee was disbanded. The Bureau of Standards has offered to continue its researches in this field and will cooperate closely with the new ASA committee.

The Correlating Committee will supervise the work of several sectional committees which will be assigned to develop building standards and specifications. These will be made available to municipalities in developing their own building codes, and in this way the collected experience of national organizations can be passed on to the local bodies. It is expected that the work of this committee will serve to make building requirements more uniform.

Today there are more than 1,600 building codes in the United States, many of which vary widely as to construction requirements. A special committee which studied the chaotic condition of building codes in the U.S. found a noticeable variation in the present building codes in their forms of arrangement. The two main types of forms are exemplified in the code of the Pacific Coast Building Officials Conference and that recommended by the Department of Commerce Building Code Committee, which was used in the last edition of the code of the National Board of Fire Underwriters, and which was also used in the revised code for New York City.

The arrangement used in the Pacific Coast code takes up each major class of occupancy and gives in separate chapters rather complete code provisions applying to each, even though this involves considerable repetition. Certain general matters, such as allowable working stresses, the quality and testing of materials, administration, etc., are treated in separate chapters without reference to occupancy. The result is practically a complete code for each type of building which greatly increases the amount of printing and consequent size and cost of the publication.

The other method of arrangement classifies buildings by type of construction and gives the fundamental structural features of each type. Chapters are then given for essential features, such as quality of materials, means of egress, etc., from which the requirements for each building may be selected.

Architects, builders, and contractors who do a state-wide, regional, or national business find it extremely complicated to change around from one type of arrangement to another. If arrangement alone could be correlated so that particular chapters in any one code were the same as in another, it would save an immense amount of time and would make enforcement of code provisions easier because those responsible for design would know that they had found all the provisions governing their particular project.

Another very fundamental difference in stating building code requirements is the manner in which these requirements are

(Continued on page 70)

THE HEATING HIT OF '36

Mueller's New Oil-Fired Air Conditioning Furnace



COMPARE this amazing new Mueller Oil-Fired Air Conditioning Furnace with any other heating plant you ever saw. You will agree, as did those who saw this new furnace at the International Heating and Ventilating Exposition at Chicago, that it is not only the most beautiful heating unit made today, but its new principle of heating is a sensation of furnace design.

Here are a few of the principles which place this new Mueller unit entirely apart from conventional furnaces: The radiator is the fan scroll . . . The air passes over heating surfaces not once, but three times, creating an unbelievable new rate of heat transfer. The unit consists of furnace, oil burner, filters, blower and controlled humidity, all enclosed in a beautiful, compact casing.

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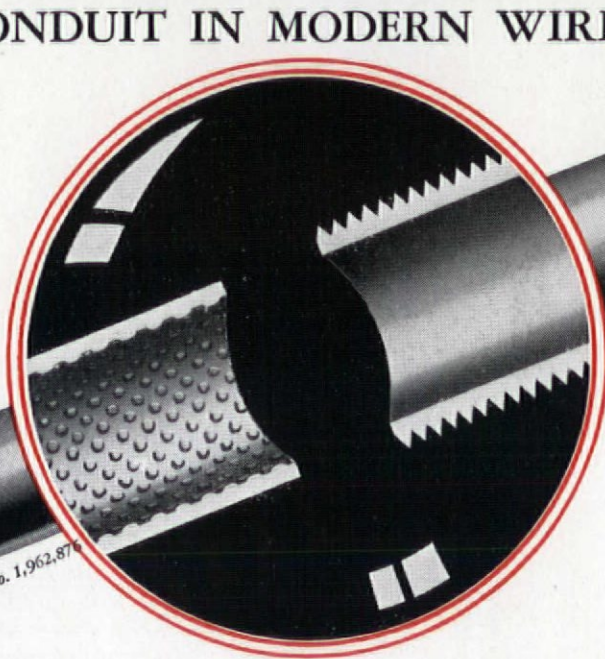
REG. U. S. PATENT OFFICE

Steeltubes

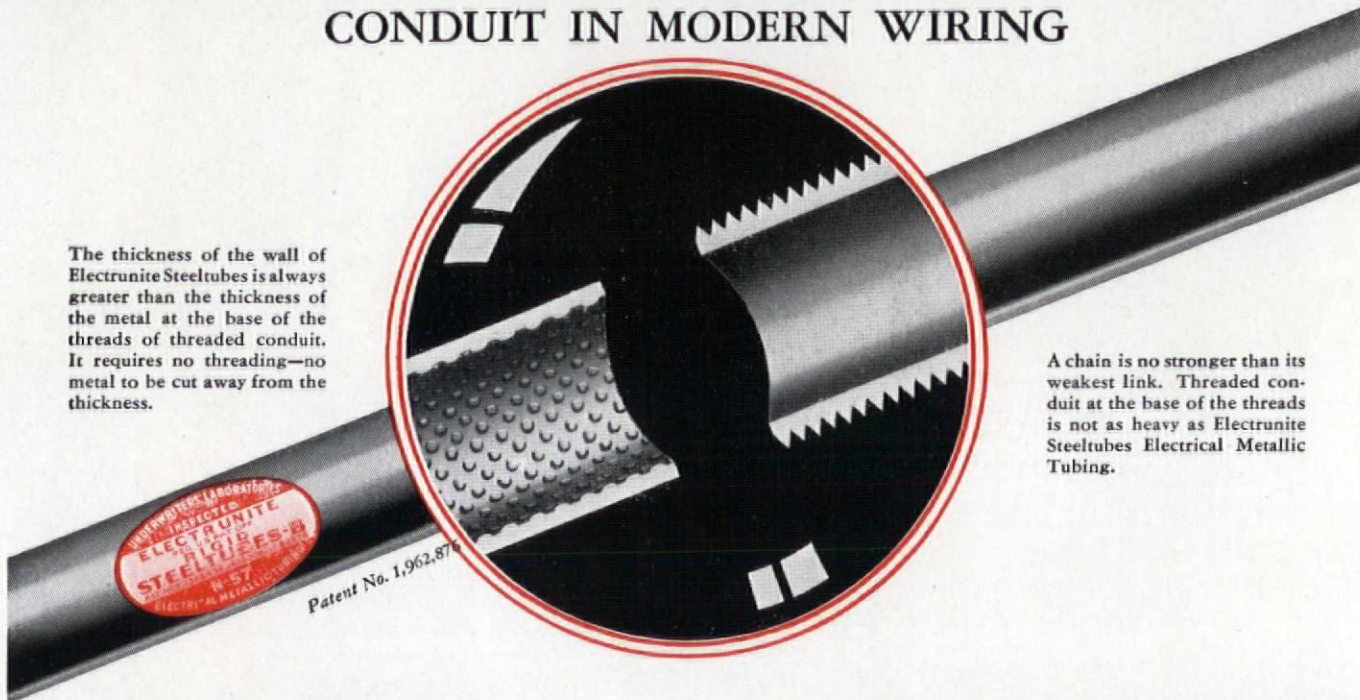


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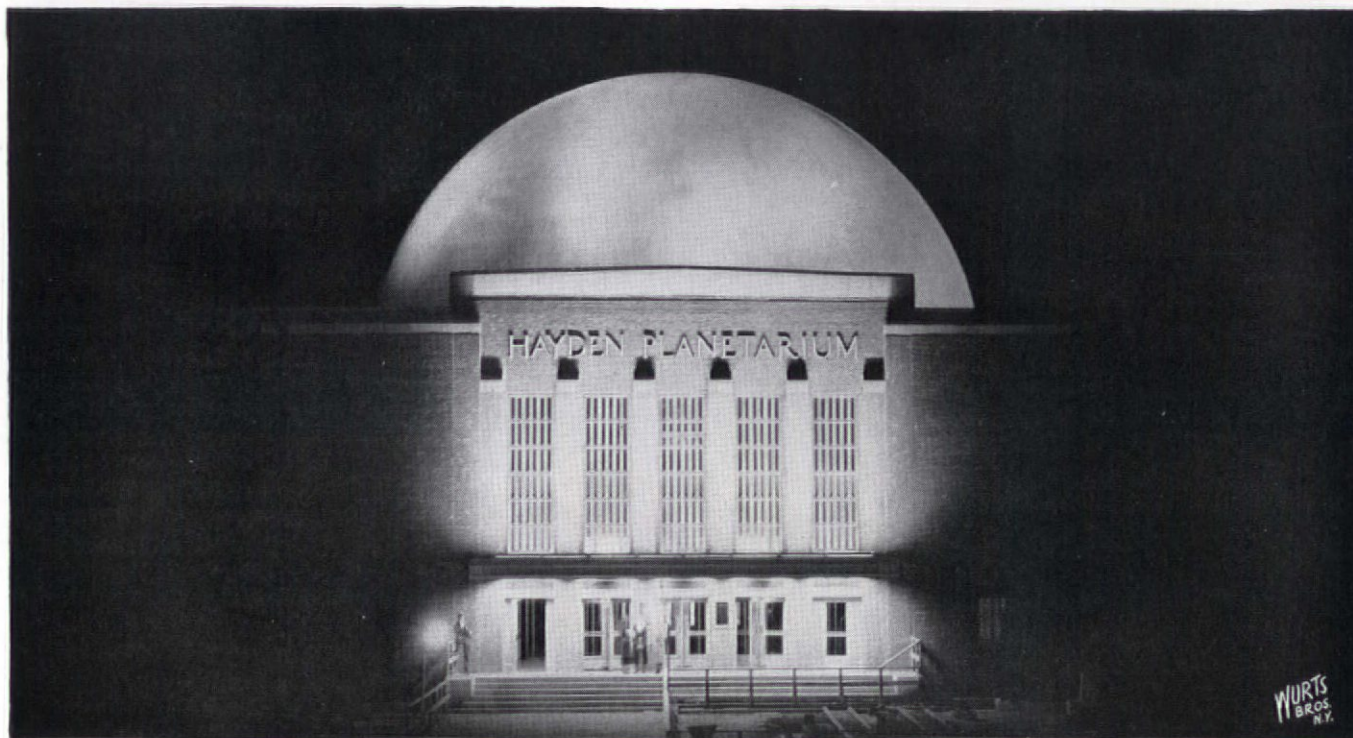
1. It affords adequate electrical and mechanical protection to wiring.
2. It is approved by Underwriter's Laboratories, The National Electrical Code and the U. S. Government for use in concrete—on surface—and in partitions.
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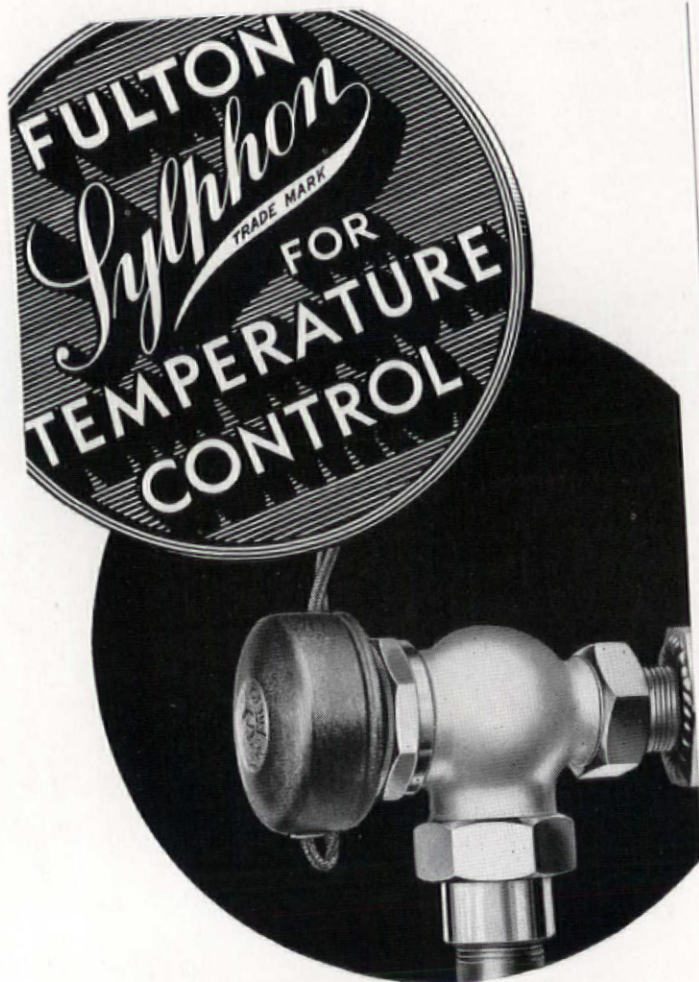
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PRODUCTS AND PRACTICE

(Continued from page 66)

presented. The Department of Commerce Building Code Committee pioneered in putting requirements on what has since been referred to as a performance basis. As an illustration of this, when setting up requirements for fire resistance of walls, they stated that a fire wall should have an ultimate fire resistance of at least four hours. Before that method of stating requirements was introduced, it was the universal practice to state the materials and thickness required for a fire wall.

Many of the municipal codes and some of the model codes go into rather complete detailed specifications for their requirements dealing with all phases of construction. Obviously, codes written on this basis become obsolete in a short time, unduly delay the acceptance of construction improvements, and hamper architects and engineers in their design. One of the biggest tasks in the building code field today is the extension of this principle of performance requirements to other features of the code than those treating of fire resistance. The more detailed information to back up these performance requirements can then be given in national standards which need not be printed in the regular code, but under proper legal procedure, may be referred to as *prima facie* evidence of what constitutes good engineering practice.

The Building Codes Correlating Committee is made up of representatives of the American Institute of Architects, some of the engineering societies, associations representing building owners, real estate boards and various fire interests, associations of municipal officers and various Government bureaus. Rudolph P. Miller, the dean of American building code authorities, was elected chairman. Mr. Miller, formerly Superintendent of Buildings of the Borough of Manhattan, City of New York, is the author of the National Board of Fire Underwriters' Building Code and has worked on building code revisions for many cities. He represents the American Society of Civil Engineers and the American Society for Testing Materials. George N. Thompson, of the National Bureau of Standards, was named Vice-Chairman.

The American Standards Association, of which the Building Codes Correlating Committee is a part, is a federation of trade associations, technical societies, and Government bureaus. The main function of the association is to serve as a national clearing house for standardization work in the U. S. It furthers standardization as a means of advancing national economy, it serves as a bureau of information, and it acts as the authoritative American channel in international standardization work.

WHAT IS AIR CONDITIONING

The term "air conditioning" has been used to cover everything from the movement of air caused by a fan to all the things which engineers can possibly do to make the atmosphere around us more comfortable. To eliminate the confusion created in the mind of the public by this indiscriminate use of the term "air conditioning," a committee representing various interested technical societies and associations has set up certain minimum requirements which the industries represented by the societies and associations have endorsed. These requirements have been called The Chicago Air Conditioning Standards.

In The Standards "air conditioning" is defined as "the process by which the temperature, moisture content, movement and cleanliness of the air in enclosed occupied spaces intended for human occupancy are maintained within definite required limits." For the purposes of public protection, these standards recognize apparatus which performs (a) all of the above functions in winter (b) all of the above functions in summer

(Continued on page 72)

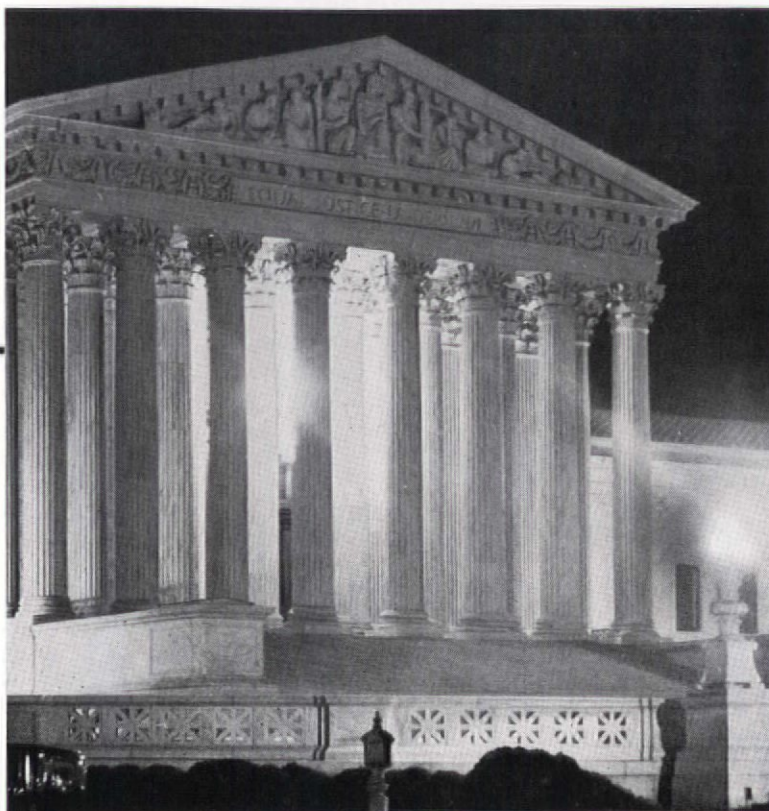
THE SUPREME COURT MEETS ON *Telechron* TIME

THE Supreme Court Building, most impressive of the new architectural developments in Washington, is equipped with Telechron electric clocks. This strikingly beautiful structure, which contains only the finest appointments, depends upon Telechron clocks for accurate time service.

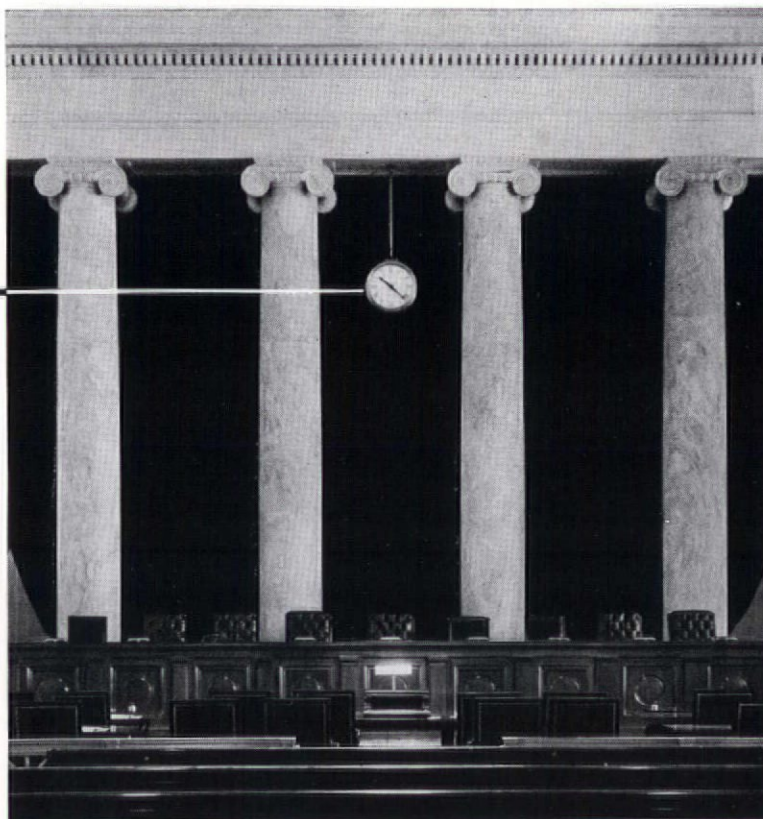
Buildings — both large and small — all over the country benefit by these precise, economical time systems. Installations vary from a single Telechron clock to hundreds in the same system — all controlled from one central point. Thousands of users testify to the economy of Telechron systems. The original cost is low. Operating and maintenance charges have proved to be negligible.

A letter to us will bring detailed information and, if you wish, one of our representatives to discuss your particular projects with you. Address the Warren Telechron Company, 436 Main Street, Ashland, Massachusetts.

**SELF-STARTING
SYNCHRONOUS ELECTRIC CLOCKS**



The newest and finest addition to the government buildings at Washington has a Telechron AT (auto throwover) clock system, consisting of 43 wall clocks, with call buzzer in each clock, two entirely special cast-bronze case clocks in the Supreme Court Room, a similar double-faced clock in the Main Reading Room, and automatic central control equipment.



This Telechron clock is over the bench of the highest tribunal in the nation. Architect of Capitol—DAVID LYNN General Contractor—GEO. A. FULLER CO. Architects—CASS GILBERT, CASS GILBERT, JR., and JOHN R. ROCKART



NOW!
AN EXTRA BATH
FOR HOMES OF
EVERY SIZE

SAFE
FOOT-GRIP, NO-SLIP
FLOOR

Exclusive Weisway feature gives sure-footed comfort. Equally effective wet or dry. Entire receptor is vitreous porcelain on Armco iron, one piece, rustproof, non-absorbent, thoroughly sanitary.

Shower BATH luxury, suited to the finest home, is provided by the new Weisway Cabinet Showers of gleaming vitreous porcelain. There are models equally practical for the most restricted budget—for modernizing or new building.

Weisway Cabinet Showers are the answer to the insistent demand for extra bathing facilities in homes of every size. Easily, quickly, economically installed in space no larger than an ordinary clothes closet. Complete with quality shower head, valves, waste and curtain. May also be supplied with glass door.

Construction is guaranteed leakproof! Being complete, independent units, Weisway Cabinet Showers are not affected by shrinking or settling of the structure. Especially adaptable for modernizing because no special treatment of walls or floors is needed.

Complete Weisway line includes models for homes of every size, for clubs, boats, hotels, institutions and industrial buildings. Write now for complete information, without obligation.

HENRY WEIS MANUFACTURING CO., INC.

ESTABLISHED 1876

CABINET SHOWER DIVISION, 302 OAK ST., ELKHART, IND.

Cabinet WEISWAY Showers

PRODUCTS AND PRACTICE

(Continued from page 70)

(c) all of the above functions in all seasons. The Standards state that if an installation does not perform all of these functions it shall be called by a name which describes only the function performed. For instance, neither a temperature controlling apparatus nor an air moving apparatus may be called an air conditioning apparatus.

The Standards set up briefly minimum standards for refrigeration apparatus, minimum design temperatures and humidities for heating, minimum design temperatures for cooling, and standards for many other items which require consideration in the proper design of air conditioning equipment. They also establish definitions of the commonly used terms.

The Chicago Air Conditioning Standards have been endorsed by the American Society of Heating and Ventilating Engineers (Illinois Chapter), the American Society of Refrigerating Engineers, the Chicago Association of Consulting Engineers, the Chicago Master Steam Fitters Association, the Chicago Ventilating Contractors Association, the Illinois Society of Architects, the National Electric Manufacturers Association, the Refrigeration Machinery Association, and the Western Society of Engineers.

Copies of The Standards can be obtained without charge from the office of the President of the American Society of Heating and Ventilating Engineers, Room 530, 228 North La Salle St., Chicago, Ill.

STEEP ROOFING PITCH

301. Built-up roofs have either coal tar pitch or asphalt as their waterproofing material. For dead level roofs, pitch is the preferred material, while asphalt is used for roofs having slopes greater than two or three inches to the foot. Of the big roofing material manufacturers who back the proper use of their materials with bonded guarantees, some prefer pitch, some asphalt for the slightly sloping, so-called flat roof. Roofing pitch has a lower melting and softening point than asphalt and, when made of a consistency that does not become brittle and crack at winter temperatures, will soften under the heat of summer sun and, on sloping roofs, will run or slide. On flat roofs this quality makes it self-healing. The Barrett Company has developed a coal tar pitch with a higher softening point for use on steep roofs. Tests have shown that the Barrett Steep Roofing Pitch is tough and pliable, will hold gravel or slag on steep roofs at atmospheric temperatures as high as 140° F. without sliding or running, and will withstand low winter temperatures without cracking, checking or losing bond.

TWO NEW SHINGLES

302. By a special process the Bakelite Building Products Co., Inc., has coated the surface of asphalt shingles with an hydraulic cement, in which is incorporated mineral oxide pigments, giving a variety of colors which heretofore were not available in asphalt shingles. Called "Cementop," these shingles are available in blues, greens, grays, reds, black and white. A white siding material, so long needed, is now available.

In addition to its attractive appearance, it is claimed that the cement adds to the rigidity of the shingle, increases its fire resistivity, protects the asphalt beneath from the sun's rays, and seals the volatile elements in the asphalt. Because of the greater rigidity, and also greater weight, it is possible to expose a greater proportion of each butt, thereby reducing the number of shingles required to cover a given area.

The roofing manufacturers who have started, or will soon start production on the new Cementop shingles are: The

(Continued on page 74)



WHEN DOES THE ARCHITECT'S RESPONSIBILITY

○ An architect's responsibility carries on long after he snaps the rubber band around his roll of blueprints for the final time and steps back to view the finished product of his brain. His worth and integrity are judged in the years that follow—when his creation has stood toe to toe with the elements—vanquished them. Only then can he look with pride on a job well done.

Take this matter of finishes, for instance. Admittedly, cheap finishes cost less by the can. Yet over the years, they are an expensive luxury you can ill afford. In effect, they represent this: a few dollars saved—priceless confidence lost.

Berry Brothers, America's outstanding manufacturer of superlative architectural finishes over the past three-quarters of a century, has long been reckoned as a supreme *quality* concern. And in achieving its own reputation, it has fostered

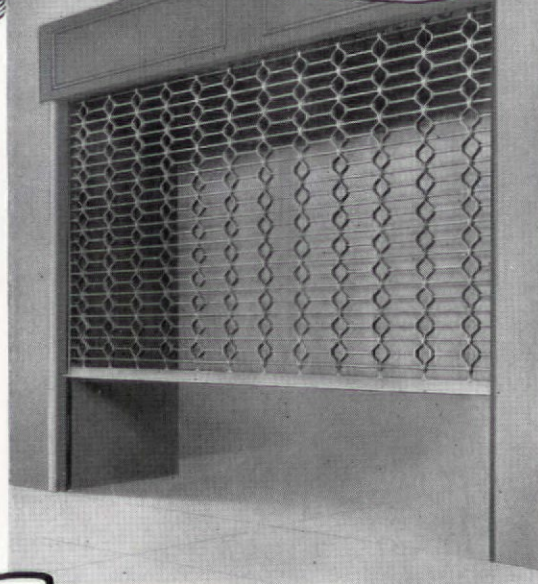
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others; for its products last with the years—preserve their beauty—hold up long after ordinary paints have oxidized and crumbled to dust. Definitely, Berry finishes will save you money; in application and over a period of years.

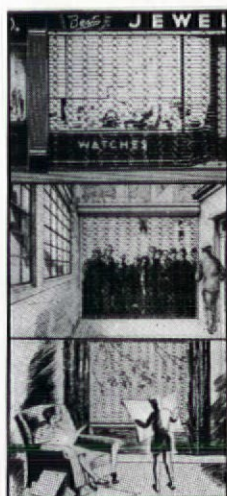
See the detailed information on Berry products (written by a member of the A. I. A.) in Sweets Catalogue for 1936! Write for the Berrycraft Color Chart—a detailed study of color and how it affects the personality! Learn for yourself how Berry Brothers quality finishes give enduring satisfaction—bring you good will that only lasting performance can offer! Write for detailed information on Berry Brothers' Products. Address:

B E R R Y B R O T H E R S
VARNISHES • ENAMELS • LACQUERS • PAINTS
DETROIT, MICH. • WALKERVILLE, ONT.

KINNEAR ROLLING GRILLE



Today's Answer TO THE PROBLEMS OF PROTECTION



WHETHER it's a residence, commercial building or industrial structure, the Kinnear Rolling Grille offers a new approach to the protection problem. Strength and architectural attractiveness combined with window-shade convenience. Unnoticed when opened—but when closed against theft and intrusion it has the added advantage of air, light and vision. Convenient, easily operating, and space saving. Built in any size or metal—for old or new buildings. Ask for the details, for you are sure to find many uses for it.

The above illustrations reveal a few of the many places Kinnear Grilles are being used. A. I. A. File No. 35-P-8 will give you valuable reference data. Your request will bring it.



The KINNEAR MFG. CO.

1640-60 Fields Avenue, Columbus, Ohio
Please send me your descriptive bulletin on the Kinnear Rolling Grille. ☐ Also your catalog on Kinnear Doors. No obligation.

Name
Address
City State

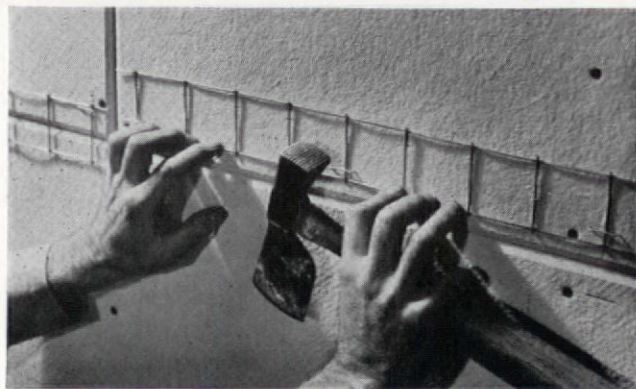
PRODUCTS AND PRACTICE

(Continued from page 72)

Johns-Manville Corp., The Ruberoid Co., McHenry-Millhouse Mfg. Co. of New York, Inc., American Asphalt Roof Corp., Amalgamated Roofing Co., Los Angeles Paper Mfg. Co.

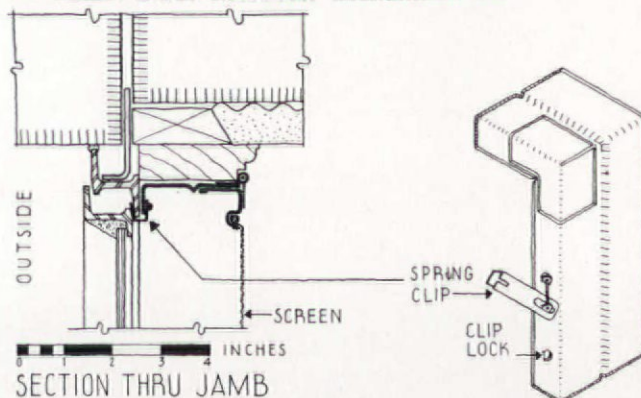
303. A fireproof, durable siding with all the appearance and texture of weathered cedar shingles is being made by The Johns-Manville Corporation from asbestos fibers and Portland cement. These "cedargrain" shingles are designed for use as siding for houses and are made tapered or in uniform thickness with wavy or staggered butts and in uniform thickness with even butts.

INSULATING LATH



304. The U. S. Gypsum Company have added to their wallboard type of insulating lath a steel mesh reinforcement in the horizontal joints. The insulating lath, which is a felted wood fiber product especially treated to make it resistant to moisture, has beveled edges and is tongued and grooved. Each piece of the lath, which is 18 x 42 in., has a steel reinforcing strip fastened to one of its long edges. After the lath is in place, this strip can be slipped down over the joint so that the mesh reinforces that part of the plaster that covers the joint. This material is called Weatherwood Reinforced Insulating Lath.

SCREEN FOR METAL CASEMENTS



305. A screen with a frame which attaches to metal casement window frames by means of a patented clip eliminates the need for drilling and tapping the metal window framing. The screen and its frame, made by the Marvel Casement Screen Company, can be obtained in a variety of finishes including stainless steel, and can be attached to any casement window without the use of tools by means of the clip shown in the illustration. This company also makes an inside stormsash which is interchangeable with the screen. The screen is lifted from its pin hinges and the sash which has the same type hinges is put in its place.

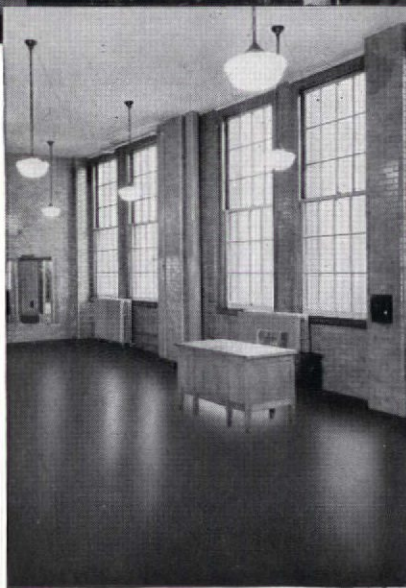
(Continued on page 76)

6,000 square yards of Sloane-Blabon Linoleum in Brooklyn's Newest High School



The recently completed Brooklyn Technical High School. Architect—Walter C. Martin, Superintendent of School Building, Board of Education, City of New York.

Here is what Strawbridge and Clothier,
the linoleum contractors, say of
this installation:



Resilient, easy to clean and to keep clean Sloane-Blabon Linoleum makes an ideal floor for the Corrective Gymnasium

Colorful, sound-absorbing, easy on the feet and eyes, Sloane-Blabon Linoleum also was selected for the English Department Office.



"Approximately 6,000 square yards of Sloane-Blabon heavy-gauge brown battleship linoleum were selected for installation in Brooklyn's newest and most elaborate high school. The floor in this school has been put to a tremendous amount of wear every day with its thousands of footsteps, and Sloane-Blabon Linoleum has met all the requirements for lasting qualities. The double-wax finish of Sloane-Blabon Linoleum is also an added protection."

The Brooklyn Technical High School is only one of many recent outstanding Sloane-Blabon installations. We shall be glad to send you a list of others, together with linoleum samples and our new Linoleum Handbook. Write W. & J. Sloane, Selling Agents Division, 295 Fifth Ave., N. Y.

SLOANE-BLABON LINOLEUM



mural-tone WALL PAINT

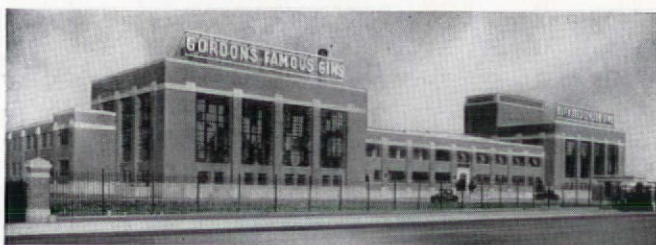
CAN BE APPLIED IN 48 HOURS

Not only can MURAL-TONE be applied to "green" plaster and masonry 48 hours after walls are up, but it dries to the touch in 40 minutes. Cuts out expensive waiting time.

MURAL-TONE is a quality wall paint for old surfaces as well as new construction. Casein, lithopone and real pigments give it the amazing advantages of speed, beauty and economy. A fraction of a day is all that is needed for a perfect paint job. One gallon, thinned with water, produces one and two-thirds gallons of paint. Covers as much as 1,000 square feet.

White MURAL-TONE is 90% light reflective... Cannot yellow... 10 rich, soft pastel colors... Permanent decoration... Washable... Usable over almost any surface. Any other type of finish can be applied over MURAL-TONE.

MURAL-TONE is reducing painting costs and lighting bills in commercial buildings, industrial plants, garages, libraries, apartment houses, etc. It fills a real need in development homes and low-cost housing projects.



700 Gallons Used for Gordon Gin Distillery*

Time means money where popular Gordon Gin is distilled. MURAL-TONE was selected because beauty and durability would not be sacrificed to speed. One coat was applied 48 hours after walls were up. It allowed the walls to "breathe" as they dried. Worthwhile savings were made in material, labor and time.

The possibilities with MURAL-TONE are legion. Architects and builders are invited to write for complete information and samples.

*Architect: Howard Chapman • General Contractors: Turner Construction Company • Painting Contractor: Irving Bloom
Paint from J. J. Hockenjos Company

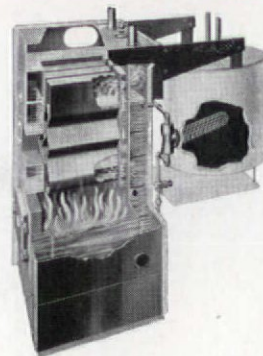
THE MURALO COMPANY, INC. Est. 1894
574 Richmond Terrace, Staten Island, N. Y.

A MURALO PRODUCT

PRODUCTS AND PRACTICE

(Continued from page 74)

RESIDENCE BOILER

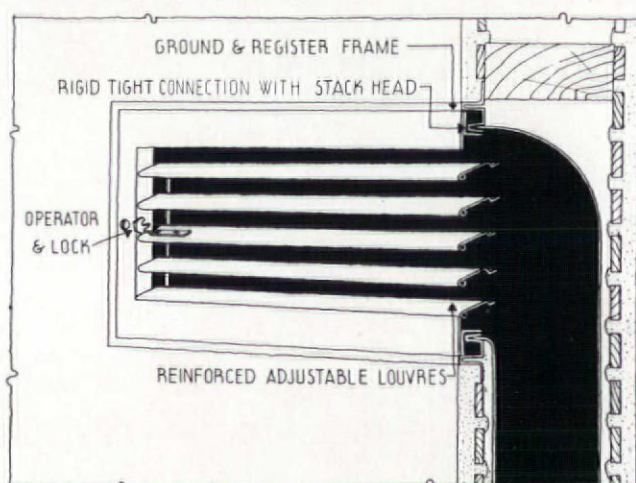


306. A residence boiler designed for quick steaming is made by Waterfilm Boilers, Inc. This boiler, as shown in the illustration, utilizes zigzag sections of steel enclosing a film of water only $\frac{3}{4}$ of an inch thick to obtain quick steaming. Economical operation and easy cleaning are additional advantages claimed for it.

This Waterfilm Stabilized Flash Boiler comes with an attractive insulated steel jacket. A rotary type oil burner can be installed so

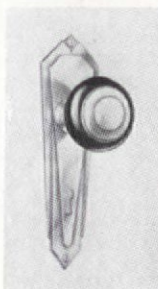
as to be completely enclosed in the jacket. If desired, a hot water heating unit with a submerged coil in the boiler can be installed at the rear of the boiler and, if a gun type oil burner is used, the entire set up of boiler, hot water heater and oil burner can be enclosed within one jacket.

AIR DUCT REGISTER



307. An air duct register having somewhat the appearance of a Venetian blind is being made by the Waterloo Register Company. The louvers in the register are adjustable so that they may be closed, or opened, to direct the flow of air downwards or, if the register is reversed, to direct the air upwards. The register is set flush with the wall. The back of the frame is formed to a V into which the duct head fits. This V is then pressed together making a tight fit between the register and duct.

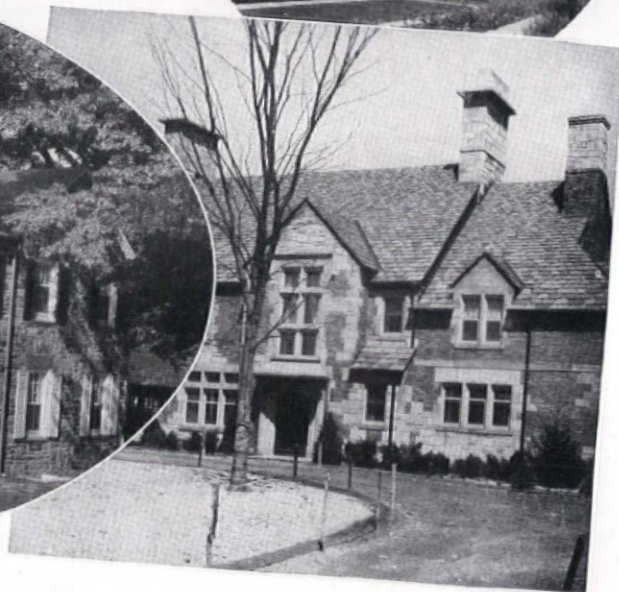
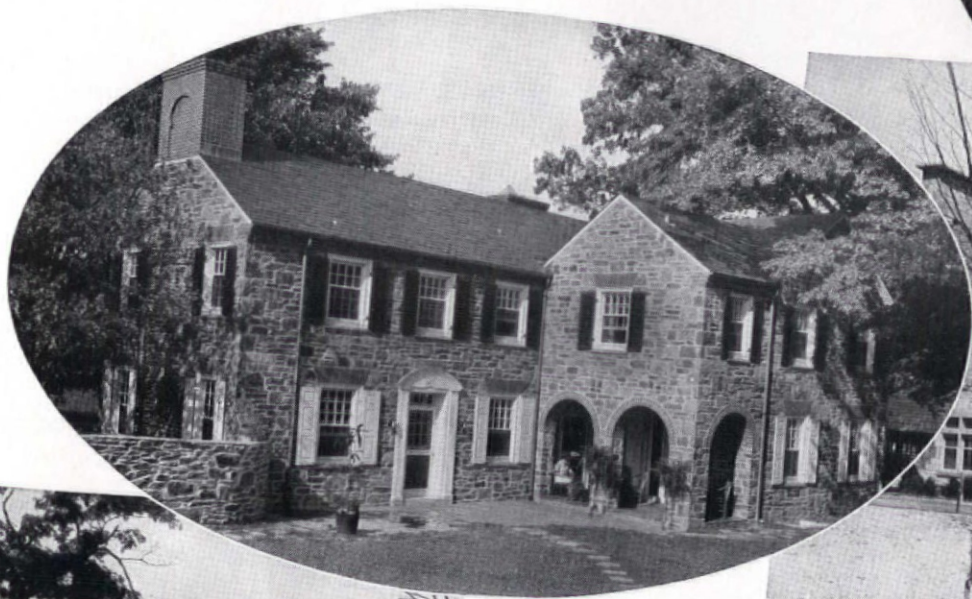
HARDWARE



308. The use of color in house accessories has reached hardware. In its Patricia line of residence locksets the Lockwood Hardware Mfg. Co. has introduced colored knobs. The knob bodies are made of a colored thermo-plastic material. The color being in the material and not applied to the surface cannot wear or chip off. These thermo-plastic knobs are durable and will not tarnish or stain. They are available in a number of attractive colors to fit in with the decorative scheme of the rooms in which they are used.

The
AIR CONDITIONING SYSTEM
installed in these Palatial homes

**IS NOW AVAILABLE FOR YOUR
 MODERATELY PRICED HOUSES**



**PRACTICAL, YEAR ROUND
 AIR CONDITIONING IS HERE!**

Naturally, you're thinking "air conditioning" for the homes you plan. What progressive architect or builder isn't? Then look at the palatial homes pictured. They were planned not to a price, but for comfort and gracious living. And every one of them has Custom Made Climate with Sunbeam Air Conditioning.

Today, you can plan the same Custom Made Climate for moderately priced homes. There is half a century of experience back of Sunbeam Air Conditioning. It is thoroughly tested, entirely practical. It performs every function of true air conditioning. It heats in winter, cools in summer. It filters, humidifies or dehumidifies, and circulates the air. The

equipment for mechanical refrigeration, however, need not be installed originally, but may be added easily at any later time. Without it, you can promise summer comfort through the cooling effect of night air and ventilation.

There is a model of Sunbeam Air Conditioner for every fuel and a size for every home. All equipment is installed in the basement. It is priced well within the budget of the average small home. The Fox Furnace Company maintains a staff of engineers to prepare complete air conditioning layouts from your building plans. The service is free to architects. Write today for complete information and literature.

**THE NAME IS KNOWN—
 THE PRODUCT TRIED AND PROVED**



**THE NEW SUNBEAM
 AIR CONDITIONING UNIT FOR
 COAL, OIL OR GAS**

THE FOX FURNACE COMPANY
 ELYRIA, OHIO
 Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

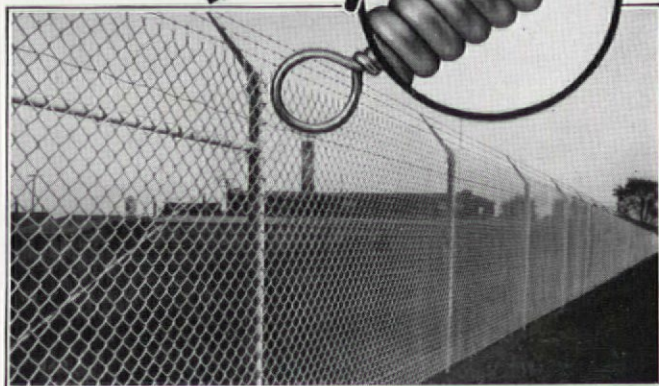
SUNBEAM
AIR CONDITIONING

HEATS IN WINTER • COOLS IN SUMMER

AT LAST!

CHAIN LINK FENCE THAT CAN

Stand the Wrap



No weak spots for corrosion to attack—the Bethanized wire can be wrapped around its own diameter without breaking or flaking its corrosion-defying zinc coat.

HERE are the quick facts. Unlike other chain link wire, the zinc coating on Bethanized wire is chemically pure—free from any vulnerable iron content. It is smooth and uniform—free from rough or thin spots. And it is extremely ductile—not hard, brittle and flaky. Twist the wire, bend it double, wrap it around itself—you just can't break the zinc coating and expose the steel core to corrosion.

Think what that means. An Anchor Fence of Bethanized wire is a fence with no flaws in its pure zinc armor—no cracks or crevices through which corrosion can creep in. Because Bethanized wire can "stand the wrap," these Anchor Fences stand up for many years beyond the lifetime of any other chain link fence—even in industrial atmospheres that are heavy with soot, salt, sulphur and other corroding agents. And now there's no premium—no extra cost—for Bethanized wire.

Send the coupon for the free book of facts about these better looking, longer lasting Anchor Fences—and about Anchor's nationwide sales and erecting service. Clip and mail the coupon now.

ANCHOR Fences

OF *BETHANIZED* WIRE

TODAY PLEASE

ANCHOR POST FENCE COMPANY
6635 Eastern Avenue, Baltimore, Md.

I will appreciate a copy of your free specification manual giving full details concerning ANCHOR FENCES OF BETHANIZED WIRE for Industrial Property.

NAME.....

ADDRESS.....

MANUFACTURERS' PUBLICATIONS

AMONG the manufacturers publications recently received of interest to the architectural profession were the following:

VAULT DOOR

309. Herring-Hall-Marvin Safe Company's folder on Certified Vault Doors contains specifications for the construction of concrete vaults, shows details and gives instructions for the setting of the vault door.

STEEL HOUSES

310. Insulated Steel Construction Company's folder shows perspectives and floor plans of some of their frameless steel houses. There are also specifications and an isometric drawing showing the assembly of the frameless steel construction units.

PORCELAIN ENAMEL

311. "What Architects Are Doing With Porcelain Enamel"—Architectural Bulletin No. 13, issued by the American Rolling Mill Co., is an illustrated forty-page booklet showing photographs and detail drawings of installations using Porcelain Enamel sheets for exterior and interior finish.

PLUMBING FIXTURES

312. A booklet of The John Douglas Co. gives specification information on their water closets.

313. Kohler Company's catalogue K-36 describes Kohler color in the bathroom and gives specification information on their plumbing fixtures, fittings, boilers, radiators and electric plants.

LATH

314. "Pennmetal Products" catalogues the many types of metal lath and metal lath accessories made by the Penn Metal Co.

AIR CONDITIONING EQUIPMENT

315. Carrier Engineering Corp. booklet describes, with illustrations and specifications, their space heating, refrigeration, and other air conditioning equipment.

TEMPERATURE REGULATORS

316. Fulton Sylphon Company's Bulletin No. 50 catalogues their many temperature regulators, with colored illustrations, typical installation diagrams, and much useful information to aid in the selection of the proper temperature control device.

INSULATION

317. Wood Conversion Company's booklet on Balsam-Wool gives the advantages of Balsam-Wool for house insulation and shows methods of installation.

WINDOWS

318. "Better Windows" is the title of The Kawneer catalogue W which describes their aluminum and bronze double hung and casement windows and illustrates many of their uses.

REQUEST FOR DATA

To obtain any of the publications reviewed on these pages, indicate the number and send coupon to THE ARCHITECTURAL FORUM, 135 East 42nd St., New York

.....

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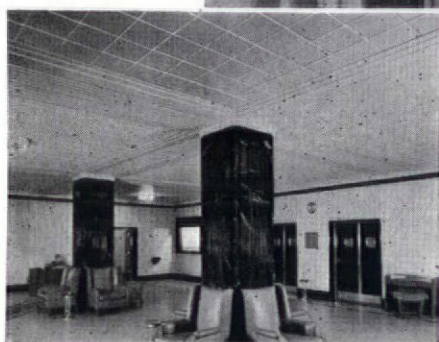
Please check here if engaged in Architectural Practice ☐

BANISH NOISE *with* CORKOUSTIC

the acoustical material that DECORATES



Armstrong's Corkoustic ceiling in Directors' Room of the Monsanto Chemical Co., St. Louis, Mo. This building was completely sound conditioned with Corkoustic by Architects Mauron, Russell, & Crowell, St. Louis. Contractor: Stone and Webster Engineering Co.



In the lobby of the Monsanto Chemical Co., St. Louis, Mo., an Armstrong's Corkoustic ceiling adds beauty... helps deaden noise.

HERE ARE A FEW OF THE PLACES WHERE YOU'LL FIND ARMSTRONG'S CORKOUSTIC

BELLEVUE HOSPITAL
HERSHEY CHOCOLATE CORP. WIN-
DOWLESS OFFICE BUILDING
UNIVERSITY OF WASHINGTON
LIBRARY
LOUISVILLE, KY. MEMORIAL
AUDITORIUM
OHIO STATE UNIVERSITY SWIMMING
POOL AND GYMNASIUM
UNIVERSITY OF ILLINOIS MATERIALS
TESTING LABORATORY
ST. LOUIS POLICE BROADCASTING
STATION



MADE of sound-absorbing cork, Armstrong's Corkoustic combines high acoustical efficiency (62% at 512 cycles) with an attractiveness of texture that is exceptional in acoustical tiles. No two tiles are exactly alike in appearance, thus eliminating monotony of pattern.

Corkoustic is available in natural "cork brown," white, ivory, and buff—or in any special color to order. It has high light-reflection value. It can be repainted without destroying its acoustical efficiency. And because it has no loose fibres to catch dust, cleanings need be few and far between.

Corkoustic requires no expensive special fastenings. And in air conditioned buildings—or on uninsulated top stories—Corkoustic offers the extra advantage of being an excellent insulator against heat and cold.

See Sweet's for details, or write now on your letterhead for specifications and samples. Armstrong Cork Products Company, Building Materials Division, 1203 State Street, Lancaster, Pennsylvania.



Armstrong's CORKOUSTIC



Gar Wood

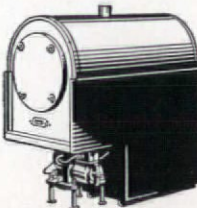
OFFERS TEAMWORK to ARCHITECTS



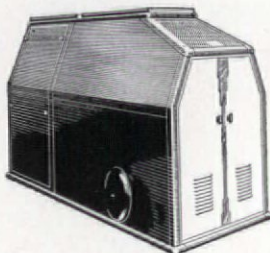
Model R. A compact, fire-tube steam or hot water heating boiler, with an integral oil burner, using No. 3 oil. 5 sizes.



Indirect Air Conditioning Cabinet. Combined with the "R" boiler, it provides heating, humidifying, filtering and circulation of air. Six sizes.



Model Q Water Heater. Oil fired. Provides quick, convenient, less expensive supply of hot water for industrial buildings. 2 sizes.



Tempered-Aire. Heating and air conditioning equipment includes filters, blower, humidifier, furnace (with "Economizer") and integral oil burner. All units can be equipped with a water heating coil for use in winter. 5 sizes.

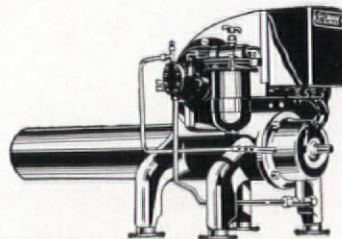
No matter whether you are planning new homes or remodeling old ones;—whether you want air conditioning for just a few rooms or a group of buildings;—whether you favor a direct or indirect system;

Gar Wood offers you a comprehensive line of efficient systems, coupled with an intelligent planning and installation service.

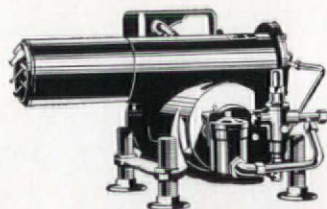
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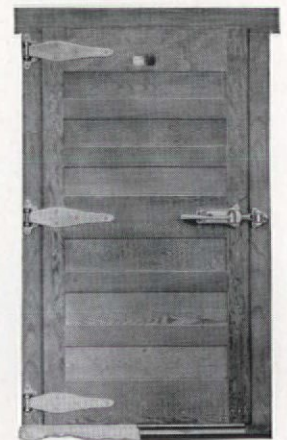
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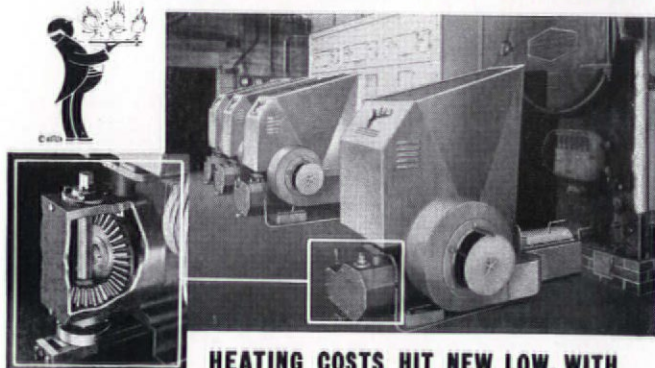
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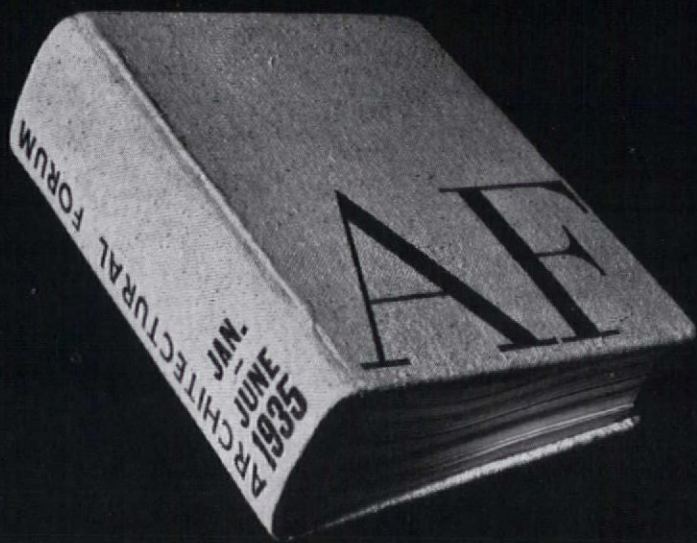
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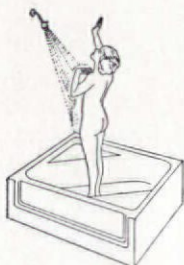
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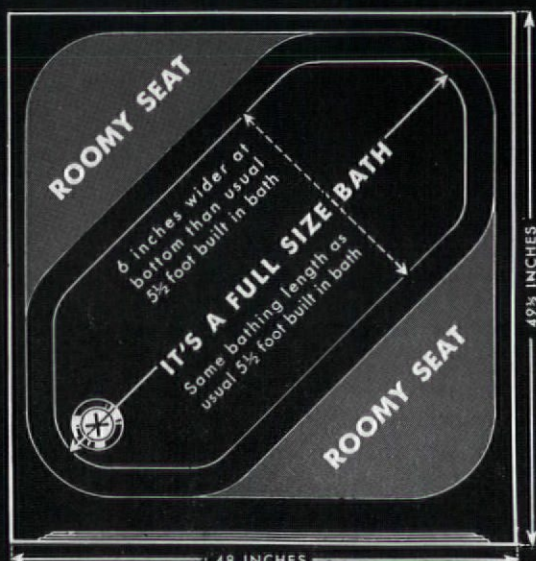
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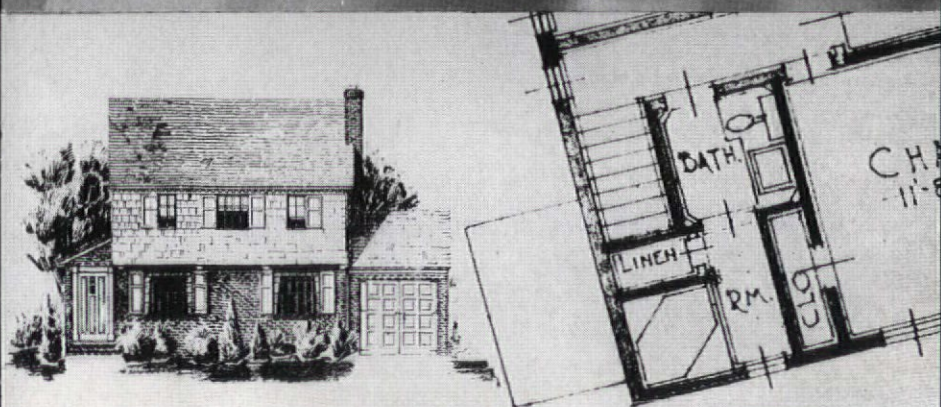
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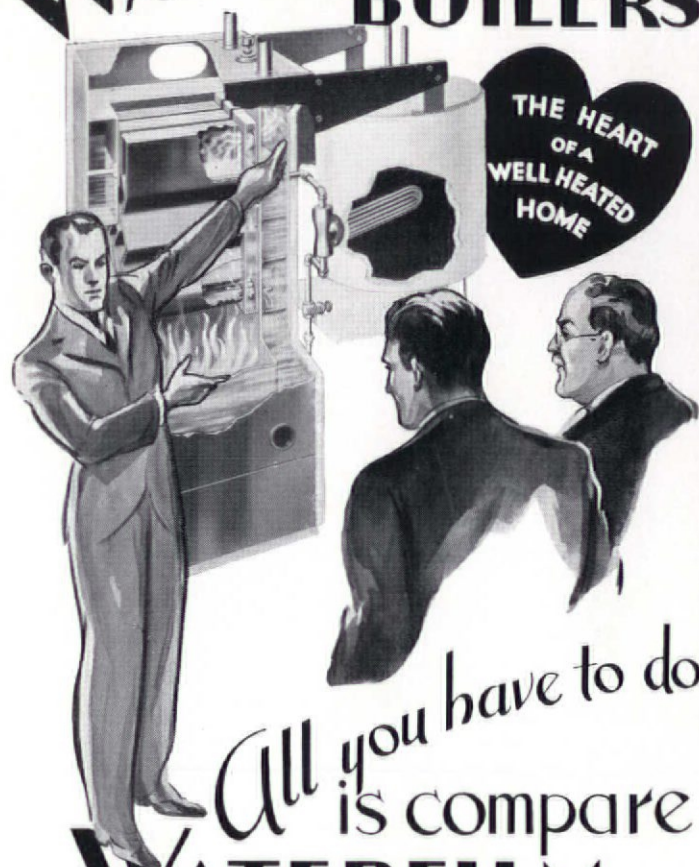
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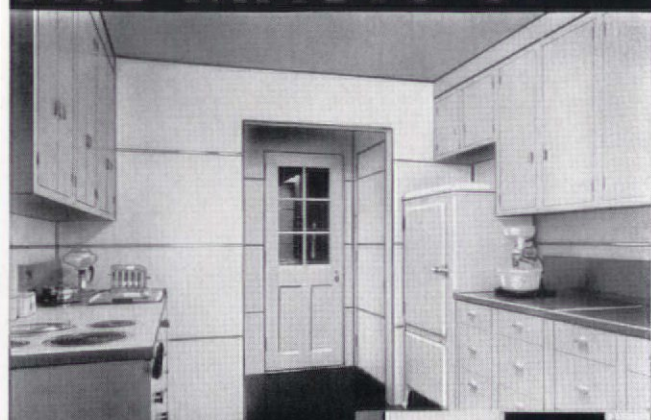
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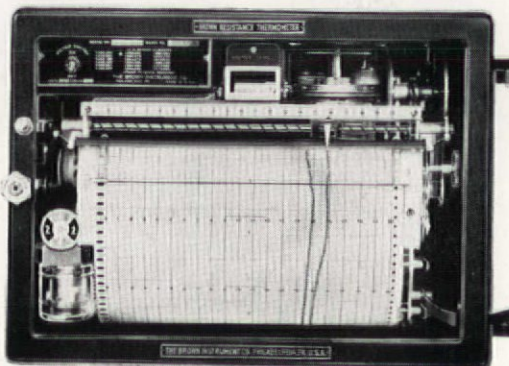
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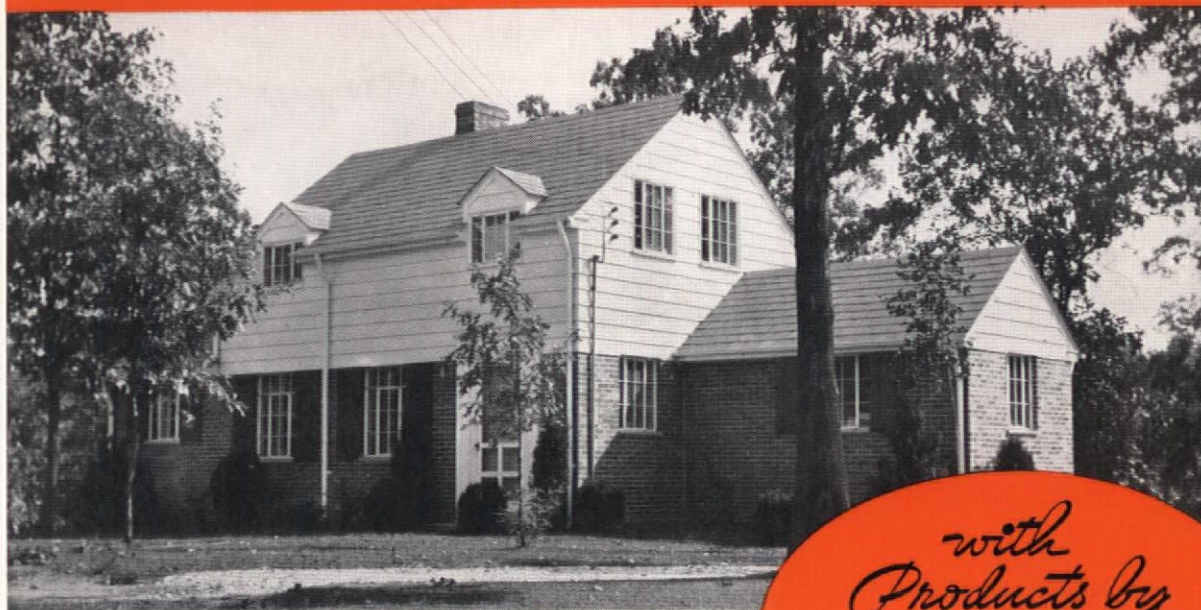
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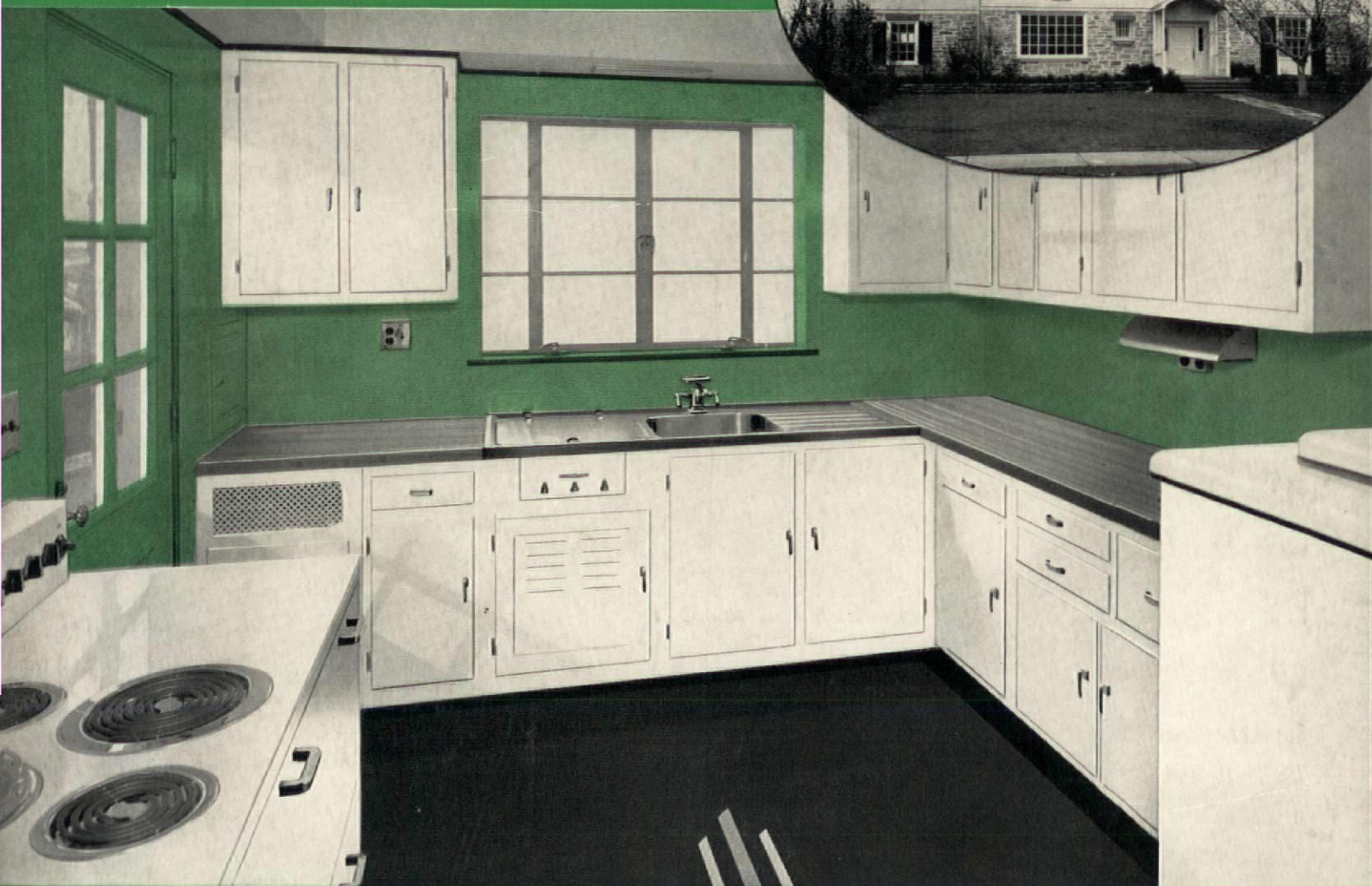
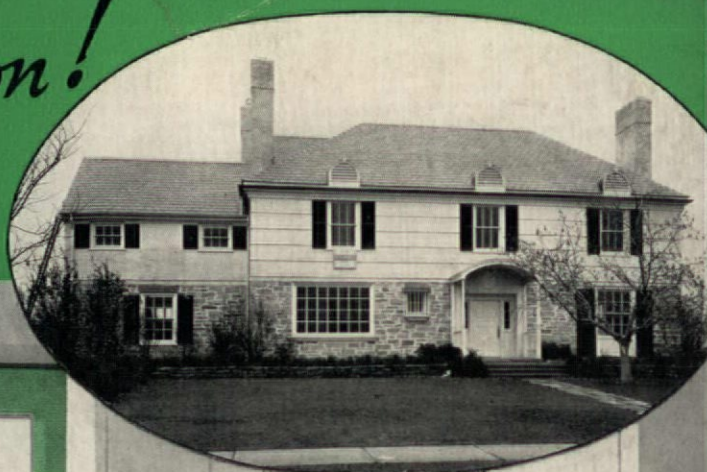
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